

Yarn Spinning Mills

1997

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313111	Yarn spinning mills	229	411	59 167	1 343 369	53 370	113 673	1 135 112	2 987 630	5 178 152	8 207 839	438 020
228100	Yarn spinning mills	N	393	57 869	1 313 947	52 204	111 392	1 111 014	2 949 176	5 120 311	8 094 541	435 967
229910	Textile goods, n.e.c. (pt)	N	18	1 298	29 422	1 166	2 281	24 098	38 454	57 841	113 298	2 053

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313111, YARN SPINNING MILLS												
United States	-	411	305	59 167	1 343 369	53 370	113 673	1 135 112	2 987 630	5 178 152	8 207 839	438 020
Alabama	-	32	31	5 766	140 525	5 399	11 084	124 385	287 650	621 832	912 886	20 030
California	7	18	5	488	8 752	426	931	6 974	25 017	29 501	54 495	8 164
Georgia	-	59	46	13 305	295 873	12 197	25 659	262 188	576 153	1 033 956	1 638 198	59 071
Massachusetts	1	11	4	465	12 622	429	891	11 639	27 484	46 026	73 756	4 584
New York	2	21	3	176	3 327	164	276	2 621	7 747	12 848	20 650	1 352
North Carolina	-	158	142	26 197	581 576	23 400	50 655	476 071	1 376 714	2 395 824	3 788 285	250 467
Pennsylvania	-	8	3	593	11 417	547	1 040	9 636	14 473	8 813	22 649	492
Rhode Island	4	7	4	179	5 157	149	342	3 973	15 278	16 127	31 655	1 374
South Carolina	1	46	40	8 086	191 646	7 266	15 642	159 880	434 723	681 453	1 117 648	50 317
Tennessee	-	11	9	2 094	56 174	1 978	4 223	50 294	124 705	223 164	347 807	10 292

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313111, YARN SPINNING MILLS		313111, YARN SPINNING MILLS—Con.	
Companies ¹ number..	229	Value added \$1,000..	2 987 630
All establishments number..	411	Total inventories, beginning of year \$1,000..	709 761
Establishments with 1 to 19 employees number..	106	Finished goods inventories, beginning of year \$1,000..	258 312
Establishments with 20 to 99 employees number..	98	Work-in-process inventories, beginning of year \$1,000..	191 059
Establishments with 100 employees or more number..	207	Materials and supplies inventories, beginning of year \$1,000..	260 390
All employees number..	59 167	Total inventories, end of year \$1,000..	683 225
Total compensation ² \$1,000..	1 654 997	Finished goods inventories, end of year \$1,000..	244 381
Annual payroll \$1,000..	1 343 369	Work-in-process inventories, end of year \$1,000..	162 933
Total fringe benefits \$1,000..	311 628	Materials and supplies inventories, end of year \$1,000..	275 911
Production workers, average for year number..	53 370	Gross book value of total assets at beginning of year \$1,000..	5 654 320
Production workers on March 12 number..	52 825	Total capital expenditures (new and used) \$1,000..	438 020
Production workers on May 12 number..	53 092	Capital expenditures for buildings and other structures (new and used) \$1,000..	57 196
Production workers on August 12 number..	53 821	Capital expenditures for machinery and equipment (new and used) \$1,000..	380 824
Production workers on November 12 number..	53 562	Total retirements ² \$1,000..	119 133
Production-worker hours 1,000..	113 673	Gross book value of total assets at end of year \$1,000..	5 973 207
Production-worker wages \$1,000..	1 135 112	Total depreciation during year ² \$1,000..	392 965
Total cost of materials \$1,000..	5 178 152	Total rental payments ² \$1,000..	35 727
Cost of materials, parts, containers, etc., consumed \$1,000..	4 843 485	Buildings and other structures rental payments ² \$1,000..	9 529
Cost of resales \$1,000..	8 598	Machinery and equipment rental payments ² \$1,000..	26 198
Cost of fuels \$1,000..	23 658	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	23 457
Cost of purchased electricity \$1,000..	296 096	Response coverage ratio ⁴ percent..	79
Cost of contract work \$1,000..	6 315	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	141 061
Quantity of electricity purchased for heat and power 1,000 kWh..	6 649 558	Response coverage ratio ⁴ percent..	79
Quantity of electricity generated less sold for heat and power 1,000 kWh..	D	Cost of purchased communications services ³ \$1,000..	4 426
Total value of shipments \$1,000..	8 207 839	Response coverage ratio ⁴ percent..	79
Primary products value of shipments \$1,000..	7 918 141	Cost of purchased legal services ³ \$1,000..	1 926
Secondary products value of shipments \$1,000..	244 503	Response coverage ratio ⁴ percent..	79
Total miscellaneous receipts \$1,000..	45 195	Cost of purchased accounting and bookkeeping services ³ \$1,000..	4 899
Value of resales \$1,000..	9 370	Response coverage ratio ⁴ percent..	79
Contract receipts \$1,000..	20 244	Cost of purchased advertising services ³ \$1,000..	474
Other miscellaneous receipts \$1,000..	15 581	Response coverage ratio ⁴ percent..	79
Primary products specialization ratio percent..	97	Cost of purchased software and other data processing services ³ \$1,000..	2 738
Value of primary products shipments made in all industries \$1,000..	8 780 842	Response coverage ratio ⁴ percent..	79
Value of primary products shipments made in this industry \$1,000..	7 918 141	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	3 238
Value of primary products shipments made in other industries \$1,000..	862 701	Response coverage ratio ⁴ percent..	79
Coverage ratio percent..	90		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313111, YARN SPINNING MILLS												
All establishments	-	411	305	59 167	1 343 369	53 370	113 673	1 135 112	2 987 630	5 178 152	8 207 839	438 020
Establishments with 1 to 4 employees	7	49	-	113	2 309	112	191	1 946	5 136	9 858	14 993	1 019
Establishments with 5 to 9 employees	7	21	-	143	2 745	129	224	2 069	5 872	11 325	17 167	1 112
Establishments with 10 to 19 employees	6	36	-	466	10 170	396	689	7 455	19 848	32 379	51 852	3 229
Establishments with 20 to 49 employees	-	37	37	1 177	32 173	1 007	2 114	24 283	108 623	124 804	236 853	22 224
Establishments with 50 to 99 employees	-	61	61	4 625	108 963	4 177	8 835	89 960	330 383	568 144	892 616	48 981
Establishments with 100 to 249 employees	-	139	139	22 507	522 592	20 398	42 939	438 626	1 283 277	2 217 075	3 501 282	208 778
Establishments with 250 to 499 employees	-	53	53	18 303	409 736	16 620	35 993	353 043	864 518	1 414 746	2 276 205	106 232
Establishments with 500 to 999 employees	-	13	13	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	7	76	-	581	9 911	539	945	8 344	20 292	38 695	58 980	4 035

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313111	Yarn spinning mills	411	59 167	1 343 369	53 370	113 673	1 135 112	2 987 630	5 178 152	8 207 839	438 020
3131111	Carded cotton yarns	117	20 723	503 176	18 744	39 722	423 811	1 276 782	2 369 623	3 658 077	203 782
3131113	Combed cotton yarns	27	5 075	115 578	4 537	9 934	97 949	310 266	361 702	676 248	36 580
3131115	Rayon, acetate, and-or lyocell spun yarns	15	2 342	50 266	1 928	4 117	38 736	115 824	131 358	250 541	22 786
3131117	Spun noncellulosic fiber and silk yarns	119	26 470	573 052	24 076	51 835	491 372	1 116 719	2 041 643	3 166 867	153 013
3131119	Wool yarns	20	2 313	53 128	2 043	4 151	43 704	90 276	152 186	240 952	14 058
313111A	Jute and linen yarns	2	D	D	D	D	D	D	D	D	D
313111C	Scouring and combing mill products ..	7	D	D	D	D	D	D	D	D	D

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313111	Spun yarns	N	X	X	8 780 842	N	X	X	N
3131111	Carded cotton yarns @	N	X	X	3 677 918	N	X	X	2 761 283
313111111	Carded cotton yarns, spun gray	N	X	X	2 242 170	N	X	X	N
3131111111	Carded cotton yarns, graymil lb..	56	3 806.1	1 634.6	2 242 170	62	3 290.6	1 284.7	1 770 686
31311112	Carded cotton yarns, spun and finished in the same establishment	N	X	X	1 433 994	N	X	X	N
3131111221	Carded cotton yarns, spun and finished in the same establishmentmil lb..	18	X	S	1 433 994	15	X	702.2	989 131
3131111Y	Carded cotton yarns, nsk	N	X	X	1 754	N	X	X	N
3131111YWW	Carded cotton yarns, nsk	N	X	X	1 754	N	X	X	1 466
3131113	Combed cotton yarns @	N	X	X	663 224	N	X	X	627 419
31311131	Combed cotton yarns	N	X	X	662 875	N	X	X	N
3131113111	Combed cotton yarns, spun gray	24	469.4	318.5	578 422	21	425.9	272.5	557 720
3131113121	Combed cotton yarns, spun and finished in the same establishmentmil lb..	7	X	40.2	84 453	8	X	30.1	69 699
3131113Y	Combed cotton yarns, nsk	N	X	X	349	N	X	X	N
3131113YWW	Combed cotton yarns, nsk	N	X	X	349	N	X	X	-
3131115	Rayon, acetate, and-or lyocell spun yarns @	N	X	X	246 672	N	X	X	247 683
31311151	Rayon, acetate, and-or lyocell spun yarns	N	X	X	245 442	N	X	X	N
3131115111	Rayon, acetate, and-or lyocell spun yarns, spun gray	27	127.7	67.8	236 906	27	D	D	D
3131115121	Rayon, acetate, and-or lyocell spun yarns, spun and finished in the same establishmentmil lb..	7	X	3.2	8 536	3	X	D	D
3131115Y	Rayon, acetate, and-or lyocell spun yarns, nsk	N	X	X	1 230	N	X	X	N
3131115YWW	Rayon, acetate, and-or lyocell spun yarns, nsk	N	X	X	1 230	N	X	X	1 052
3131117	Spun noncellulosic fiber and silk yarns @	N	X	X	3 706 766	N	X	X	3 824 179
31311171	Polyester spun yarn, spun gray	N	X	X	1 326 885	N	X	X	N
3131117111	Polyester spun yarn, spun graymil lb..	41	1 991.2	468.9	1 326 885	70	2 036.5	756.1	1 216 274
31311172	Polyester spun yarn, spun and finished in the same establishment	N	X	X	477 499	N	X	X	N
3131117221	Polyester spun yarn, spun and finished in the same establishmentmil lb..	28	X	186.0	477 499	22	X	353.7	508 720
31311173	All other spun noncellulosic fibers and silk yarns, spun gray	N	X	X	1 111 627	N	X	X	N
3131117331	All other spun noncellulosic fibers and silk yarns, spun graymil lb..	40	1 069.3	372.9	1 111 627	52	1 215.4	838.0	1 427 616
31311174	All other spun noncellulosic fibers and silk yarns, spun and finished in the same establishment	N	X	X	788 969	N	X	X	N
3131117441	All other spun noncellulosic fibers and silk yarns, spun and finished in the same establishmentmil lb..	22	X	508.5	788 969	29	X	395.5	669 768
3131117Y	Spun noncellulosic fiber and silk yarns, nsk	N	X	X	1 786	N	X	X	N
3131117YWW	Spun noncellulosic fiber and silk yarns, nsk	N	X	X	1 786	N	X	X	1 801
3131119	Wool yarns @	N	X	X	265 659	N	X	X	258 101
31311191	Wool yarns	N	X	X	262 842	N	X	X	N
3131119111	Wool yarns, except carpet yarns (including new, reused, and reprocessed wool)	22	114.3	D	D	34	114.6	51.8	215 382
3131119121	Wool carpet (weaving and tufting) yarns, including new, reused, and reprocessed woolmil lb..	4	D	D	D	8	17.7	14.8	38 594
3131119Y	Wool yarns, nsk	N	X	X	2 817	N	X	X	N
3131119YWW	Wool yarns, nsk	N	X	X	2 817	N	X	X	4 125
313111A	Jute and linen yarns	N	X	X	D	N	X	X	N
313111A1	Jute and linen yarns	N	X	X	D	N	X	X	N
313111A111	Jute yarns	1	X	X	D	N	X	X	N
313111A121	Linen yarns	2	X	X	D	N	X	X	N
313111AY	Jute and linen yarns, nsk	N	X	X	-	N	X	X	N
313111AYWW	Jute and linen yarns, nsk	N	X	X	-	N	X	X	N
313111C	Scouring and combing mill products @	N	X	X	D	N	X	X	N
313111C1	Scouring and combing mill products	N	X	X	D	N	X	X	N
313111C111	Scouring and combing mill products, tops and noils, including top or sliver converted from tow without combingmil lb..	6	X	D	D	4	X	1.0	31 364
313111C121	Scoured wool and other scouring and combing mill products, including nubs and slubs, etc.mil lb..	8	X	D	D	5	X	16.4	29 379
313111CY	Scouring and combing mill products, nsk	N	X	X	-	N	X	X	N
313111CYWW	Scouring and combing mill products, nsk	N	X	X	-	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313111	Spun yarns—Con.								
313111W	Yarn spinning mills, nsk, total	N	X	X	110 058	N	X	X	N
313111WY	Yarn spinning mills, nsk, for nonadministrative-record establishments	N	X	X	110 058	N	X	X	N
313111WYWW	Yarn spinning mills, nsk, for nonadministrative-record establishments	N	X	X	52 616	N	X	X	N
313111WYWY	Yarn spinning mills, nsk, for administrative-record establishments	N	X	X	57 442	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3131111	CARDED COTTON YARNS @		
	United States	3 677 918	2 761 283
	Alabama	661 892	516 896
	Georgia	544 137	266 172
	North Carolina	1 820 469	1 570 539
	South Carolina	433 236	294 532
	Tennessee	140 978	96 004
3131113	COMBED COTTON YARNS @		
	United States	663 224	627 419
	Alabama	42 091	N
	Georgia	174 836	61 309
	North Carolina	368 066	458 311
	South Carolina	47 971	24 772
3131115	RAYON, ACETATE, AND-OR LYOCCELL SPUN YARNS @		
	United States	246 672	247 683
	Georgia	16 183	N
	North Carolina	125 350	136 659
	South Carolina	64 708	78 979
3131117	SPUN NONCELLULOSIC FIBER AND SILK YARNS @		
	United States	3 706 766	3 824 179
	Alabama	308 090	365 035
	Georgia	1 132 700	1 093 642
	North Carolina	1 422 741	1 491 672
	South Carolina	500 992	498 600
	Tennessee	155 390	150 259
3131119	WOOL YARNS @		
	United States	265 659	258 101
	South Carolina	62 144	49 429
313111A	JUTE AND LINEN YARNS		
	United States	D	N
313111C	SCOURING AND COMBING MILL PRODUCTS @		
	United States	D	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313111	YARN SPINNING MILLS				
11192001	Raw cotton fibers 1,000 bales	^q 5 643.6	2 319 529	N	N
11200000	Raw wool, mohair, and other animal fibers (scoured weight) mil lb	^p 38.2	46 150	N	N
31499905	Wool tops mil lb	^q 25.9	95 310	D	D
00999829	All other fibers (silk, jute, reused wool, waste, etc.) mil lb	^q 41.5	27 491	72.3	15 756
32522105	Rayon and acetate staple and tow mil lb	70.6	150 896	N	N
32522215	Nylon staple and tow mil lb	553.8	717 486	926.9	992 123
32522223	Polyester staple and tow mil lb	751.9	629 556	763.0	598 811
32522225	Acrylic staple and tow mil lb	^q 235.1	213 334	144.6	159 699
32522227	All other manmade fiber staple and tow (except glass) mil lb	22.9	104 742	^p 66.7	108 137
31311101	Spun yarn, all fibers mil lb	^p 27.7	47 367	N	N
32522211	Nylon filament yarns mil lb	88.2	158 299	95.9	148 495
32522221	Polyester filament yarns mil lb	D	D	100.5	97 272
32522205	All other manmade filament yarns mil lb	D	D	^p 1.7	3 386
32513003	Dyes, lakes, and toners	X	20 203	N	N
00970099	All other materials and components, parts, containers, and supplies	X	222 675	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	53 005	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313111 YARN SPINNING MILLS

This U.S. industry comprises establishments primarily engaged in spinning yarn from any fiber and/or producing hemp yarn and further processing into rope or bags.

The data published with NAICS code 313111 include the following SIC industries:

- 2281 Yarn spinning mills
- 2299 Textile goods, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3131111	For additional detail, see Current Industrial Report MA313F, Yarn Production.
@3131113	For additional detail, see Current Industrial Report MA313F, Yarn Production.
@3131115	For additional detail, see Current Industrial Report MA313F, Yarn Production.
@3131117	For additional detail, see Current Industrial Report MA313F, Yarn Production.
@3131119	For additional detail, see Current Industrial Report MA313F, Yarn Production.
@313111C	For additional detail, see Current Industrial Report MQ313D, Consumption on the Woolen System.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221J03	2221J03	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221J05	2221J05	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210N121 pt	2221J12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N121 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297121
3131130 pt	22840 pt	22840 pt	313210N151	2221J13	2221J13	3132301131 pt	2297124 pt	2297123
3131130 pt	22990 pt	22990 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297125
3131130 pt	22996 pt	22996 pt	313210N171	2221J19	2221J19	3132301141 pt	2297134 pt	2297133 pt
3131130111	2284010	2284010 pt	313210N181	2221J23	2221J23	3132301141 pt	2297134 pt	2297135 pt
3131130121	2284023	2284023 pt	313210N191	2221J25	2221J25	3132301151 pt	2297136 pt	2297131 pt
3131130131 pt	2284045 pt	2284041	313210N1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297133 pt
3131130131 pt	2284045 pt	2284051 pt	313210N1D1	2221J29	2221J29	3132301151 pt	2297136 pt	2297135 pt
3131130141 pt	2284047 pt	2284043 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297131 pt
3131130141 pt	2284047 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297133 pt
3131130151 pt	2284035 pt	2284031 pt	313210N1YVW	2221J00	2221J00	3132301YVW	2297100	2297100
3131130151 pt	2284035 pt	2284051 pt	313210Q	2221K	2221K	3132303	22972	22972
3131130161 pt	2284037 pt	2284033 pt	313210Q000	2221K00	2221K00	3132303111	2297241	2297241
3131130161 pt	2284037 pt	2284051 pt	313210R	2221M	2221M	3132303121	2297203	2297203
3131130171	2284081	2284010 pt	313210R111 pt	2221M06 pt	2221M01 pt	3132303131	2297205	2297205
3131130181	2284083	2284023 pt	313210R111 pt	2221M06 pt	2221M03 pt	3132303141	2297251	2297251
3131130191	2284085	2284031 pt	313210R121 pt	2221M08 pt	2221M01 pt	3132303251	2297298	2297298
31311301A1	2284087	2284033 pt	313210R131 pt	2221M08 pt	2221M03 pt	3132303YVW	2297200	2297200
31311301C1	2284061	2284061	313210R131 pt	2221M11 pt	2221M01 pt	3132305	22991	22991
31311301D1	2299607	2299603 pt	313210R141 pt	2221M16 pt	2221M01 pt	3132305111	2299111	2299111
3131130YVW pt	2284000 pt	2284000 pt	313210R141 pt	2221M16 pt	2221M03 pt	3132305221	2299135	2299135
3131130YVW pt	2299000 pt	2299000 pt	313210RYVW	2221M00	2221M00	3132305331	2299147	2299147
3131130YVW pt	2299600 pt	2299600 pt	313210T	22312	22312	3132305YVW	2299100	2299100
3131130YVW pt	2284002 pt	2284002 pt	313210T100	2231200	2231200	313230W pt	22970	22970
3131130YVW pt	2299002 pt	2299002 pt	313210U	22316 pt	22316 pt			
3132101	2211B	2211B	313210U100 pt	2231611	2231600 pt			
3132101100	2211B00	2211B00	313210U100 pt	2231600 pt	2231600 pt			
3132103	2211C	2211C						
3132103100	2211C00	2211C00						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115241 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115581 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115581 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115691 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071 pt.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071 pt.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	313311581 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			313311581 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912 pt.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918 pt.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
3132495100.....	2258500.....	2258500.....	3133117261 pt.....	2262918 pt.....	2262919.....	3133120YVW pt.....	2257300 pt.....	2257300 pt.....
			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
3132497.....	22589 pt.....	22589 pt.....	3133117381.....	2262927.....	2262927.....	3133120YVW pt.....	2258400 pt.....	2258400 pt.....
3132497111.....	2258913.....	2258913.....	3133117491.....	2262925.....	2262925.....	3133120YVW pt.....	2258900 pt.....	2258900 pt.....
3132497121.....	2258917.....	2258917.....	31331175B1.....	2262929.....	2262929.....	3133120YVW pt.....	2269000.....	2269000 pt.....
3132497YVW.....	2258900 pt.....	2258900 pt.....	31331175D1.....	2262931.....	2262931.....			
3132497YVW.....	2258902.....	2258902.....	3133117YVW.....	2262900.....	2262900.....	3133120YVW pt.....	2282000 pt.....	2282000 pt.....
						3133120YVW pt.....	2282200 pt.....	2282200 pt.....
3132499.....	22590 pt.....	22590 pt.....	3133119 pt.....	22316 pt.....	22316 pt.....	3133120YVW pt.....	2282900 pt.....	2282900 pt.....
3132499100.....	2259050.....	2259050.....				3133120YVW pt.....	2284000 pt.....	2284000 pt.....
			3133119 pt.....	22317 pt.....	22317 pt.....	3133120YVW pt.....	2299000 pt.....	2299000 pt.....
313249W pt.....	22580 pt.....	22580 pt.....	3133119100 pt.....	2231621.....	2231600 pt.....	3133120YVW pt.....	2299600 pt.....	2299600 pt.....
			3133119100 pt.....	2231600 pt.....	2231600 pt.....	3133120YVW pt.....	5131000 pt.....	5131000 pt.....
313249W pt.....	22590 pt.....	22590 pt.....	3133119100 pt.....	2231700 pt.....	2231700 pt.....	3133120YVW pt.....	2231002 pt.....	2231002 pt.....
313249WYVW pt.....	2258000 pt.....	2258000 pt.....	3133119100 pt.....	2231791.....	2231791.....	3133120YVW pt.....	2257002 pt.....	2257002 pt.....
313249WYVW pt.....	2259000 pt.....	2259000 pt.....	3133119100 pt.....	2231792.....	2231792.....	3133120YVW pt.....	2258002 pt.....	2258002 pt.....
313249WYVW pt.....	2259002 pt.....	2259002 pt.....						
313249WYVW pt.....	2259002 pt.....	2259002 pt.....	313311W pt.....	22610.....	22610.....	3133120YVW pt.....	2269002.....	2269002.....
			313311W pt.....	22620.....	22620.....	3133120YVW pt.....	2282002 pt.....	2282002 pt.....
3133111 pt.....	22617.....	22617.....				3133120YVW pt.....	2284002 pt.....	2284002 pt.....
			313311W pt.....	51310.....	51310 pt.....	3133120YVW pt.....	2299002 pt.....	2299002 pt.....
31331111 pt.....	51317.....	51310 pt.....	313311W pt.....	22310 pt.....	22310 pt.....	3133120YVW pt.....	5131002 pt.....	5131000 pt.....
3133111111 pt.....	2261701.....	2261701.....	313311WYVW pt.....	2231000 pt.....	2231000 pt.....	3133201.....	22952.....	22952.....
3133111111 pt.....	5131701.....	5131000 pt.....	313311WYVW pt.....	2261000.....	2261000.....	3133201111.....	2295213.....	2295213.....
3133111121 pt.....	2261703.....	2261703.....	313311WYVW pt.....	2262000.....	2262000.....	3133201121.....	2295215.....	2295215.....
3133111121 pt.....	5131703.....	5131000 pt.....	313311WYVW pt.....	5131000 pt.....	5131000 pt.....	3133201131.....	2295217.....	2295217.....
3133111131 pt.....	2261705.....	2261705.....	313311WYVW pt.....	2231002 pt.....	2231002 pt.....	3133201241.....	2295222.....	2295222.....
3133111131 pt.....	5131705.....	5131000 pt.....	313311WYVW pt.....	2261002.....	2261002.....	3133201251.....	2295224.....	2295224.....
3133111141 pt.....	2261707.....	2261707.....	313311WYVW pt.....	2262002.....	2262002.....	3133201261.....	2295226.....	2295226.....
3133111141 pt.....	5131707.....	5131000 pt.....	313311WYVW pt.....	5131002 pt.....	5131000 pt.....	3133201371.....	2295232.....	2295232.....
3133111151 pt.....	2261710 pt.....	2261709.....	3133120 pt.....	22310.....	22310 pt.....	3133201381.....	2295234.....	2295234.....
3133111151 pt.....	2261710 pt.....	2261711.....	3133120 pt.....	22311.....	22311.....	3133201391.....	2295236.....	2295236.....
						3133201YVW.....	2295200.....	2295200.....
3133111151 pt.....	5131710.....	5131000 pt.....	3133120 pt.....	22317 pt.....	22317 pt.....	3133203.....	3069D pt.....	3069D pt.....
3133111161 pt.....	2261713.....	2261713.....	3133120 pt.....	22570 pt.....	22570 pt.....	3133203111.....	3069D15.....	3069D15.....
3133111161 pt.....	5131713.....	5131000 pt.....	3133120 pt.....	22573 pt.....	22573 pt.....	3133203121.....	3069D18.....	3069D18.....
3133111171 pt.....	2261718 pt.....	2261715.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203131.....	3069D20.....	3069D20.....
3133111171 pt.....	2261718 pt.....	2261719.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203YVW.....	3069D00 pt.....	3069D00 pt.....
3133111171 pt.....	5131718.....	5131000 pt.....	3133120 pt.....	22580 pt.....	22580 pt.....			
3133111181 pt.....	2261723.....	2261723.....	3133120 pt.....	22584 pt.....	22584 pt.....	3133205.....	22953.....	22953.....
3133111181 pt.....	5131723.....	5131000 pt.....	3133120 pt.....	22589 pt.....	22589 pt.....	313320511.....	2295311.....	2295311.....
3133111YVW pt.....	2261700.....	2261700.....	3133120 pt.....	22690.....	22690.....	3133205121.....	2295315.....	2295315.....
3133111YVW pt.....	5131700.....	5131000 pt.....	3133120 pt.....	22820 pt.....	22820 pt.....	3133205231 pt.....	2295319.....	2295317 pt.....
			3133120 pt.....	22822 pt.....	22822 pt.....	3133205231 pt.....	2295319.....	2295338 pt.....
3133113.....	22619.....	22619.....	3133120 pt.....	22829 pt.....	22829 pt.....	3133205241 pt.....	2295358.....	2295348 pt.....
3133113111.....	2261901.....	2261901.....	3133120 pt.....	22840 pt.....	22840 pt.....	3133205241 pt.....	2295358.....	2295338 pt.....
3133113221.....	2261903.....	2261903.....	3133120 pt.....	22990 pt.....	22990 pt.....	3133205241 pt.....	2295358.....	2295348 pt.....
3133113231.....	2261905.....	2261905.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205251.....	2295321.....	2295317 pt.....
3133113241.....	2261907.....	2261907.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205261.....	2295323.....	2295338 pt.....
3133113251.....	2261909.....	2261909.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205271.....	2295325.....	2295348 pt.....
3133113261.....	2261911.....	2261911.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205481.....	2295391.....	2295398.....
3133113371.....	2261913.....	2261913.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205YVW.....	2295300.....	2295300.....
3133113481.....	2261915.....	2261915.....						
3133113491.....	2261919.....	2261919.....				313320W pt.....	22950.....	22950.....
31331134B1.....	2261923.....	2261923.....				313320W pt.....	30690 pt.....	30690 pt.....
3133113YVW.....	2261900.....	2261900.....						

Yarn Texturing, Throwing, and Twisting Mills

1997

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1997 Economic Census

Manufacturing

Industry Series



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313112	Yarn texturing, throwing, & twisting mills	100	134	20 244	480 688	18 036	36 891	375 904	1 068 758	3 058 029	4 150 043	240 247
228210	Yarn throwing & winding mills (pt)	N	134	20 244	480 688	18 036	36 891	375 904	1 068 758	3 058 029	4 150 043	240 247

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313112, YARN TEXTURING, THROWING, & TWISTING MILLS												
United States	-	134	100	20 244	480 688	18 036	36 891	375 904	1 068 758	3 058 029	4 150 043	240 247
Alabama	-	4	3	796	15 329	741	1 505	13 861	25 259	85 207	111 429	886
California	1	4	3	252	5 214	227	479	4 500	8 021	27 465	35 419	1 746
New Jersey	-	4	3	183	6 062	111	212	1 912	9 989	32 880	43 620	590
North Carolina	-	38	31	7 243	184 877	6 307	12 511	137 967	527 839	1 256 098	1 800 317	191 769
Pennsylvania	-	13	8	587	12 021	516	964	8 902	13 542	44 844	59 541	3 534

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313112, YARN TEXTURING, THROWING, & TWISTING MILLS		313112, YARN TEXTURING, THROWING, & TWISTING MILLS—Con.	
Companies ¹	number.. 100	3131121, Yarn texturing, throwing, & twisting mills—manufacturer—Con.	
All establishments	number.. 134	Production workers, average for year	number.. 17 212
Establishments with 1 to 19 employees	number.. 34	Production workers on March 12	number.. 16 794
Establishments with 20 to 99 employees	number.. 34	Production workers on May 12	number.. 16 962
Establishments with 100 employees or more	number.. 66	Production workers on August 12	number.. 17 198
All employees	number.. 20 244	Production workers on November 12	number.. 17 774
Total compensation ²	\$1,000.. 581 230	Production-worker hours	1,000.. 35 060
Annual payroll	\$1,000.. 480 688	Production-worker wages	\$1,000.. 357 591
Total fringe benefits	\$1,000.. 100 542	Total cost of materials	\$1,000.. 3 006 311
Production workers, average for year	number.. 18 036	Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 842 194
Production workers on March 12	number.. 17 631	Cost of resales	\$1,000.. 53 913
Production workers on May 12	number.. 17 799	Cost of fuels	\$1,000.. 10 406
Production workers on August 12	number.. 18 007	Cost of purchased electricity	\$1,000.. 80 497
Production workers on November 12	number.. 18 587	Cost of contract work	\$1,000.. 19 301
Production-worker hours	1,000.. 36 891	Quantity of electricity purchased for heat and power	1,000 kWh.. 1 861 895
Production-worker wages	\$1,000.. 375 904	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 3 058 029	Total value of shipments	\$1,000.. 4 047 595
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 889 236	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 53 913	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 11 875	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 83 279	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 19 726	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 932 345	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 4 150 043	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 3 820 919	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 261 932	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 67 192	Coverage ratio	percent.. X
Value of resales	\$1,000.. 52 633	Value added	\$1,000.. 1 015 367
Contract receipts	\$1,000.. 12 839	Total inventories, beginning of year	\$1,000.. 322 302
Other miscellaneous receipts	\$1,000.. 1 720	Finished goods inventories, beginning of year	\$1,000.. 127 791
Primary products specialization ratio	percent.. 93	Work-in-process inventories, beginning of year	\$1,000.. 53 383
Value of primary products shipments made in all industries	\$1,000.. 4 339 014	Materials and supplies inventories, beginning of year	\$1,000.. 141 128
Value of primary products shipments made in this industry	\$1,000.. 3 820 919	Total inventories, end of year	\$1,000.. 331 444
Value of primary products shipments made in other industries	\$1,000.. 518 095	Finished goods inventories, end of year	\$1,000.. 101 476
Coverage ratio	percent.. 88	Work-in-process inventories, end of year	\$1,000.. 53 781
Value added	\$1,000.. 1 068 758	Materials and supplies inventories, end of year	\$1,000.. 176 187
Total inventories, beginning of year	\$1,000.. 333 421	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 133 721	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 56 885	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 142 815	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 344 782	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 107 787	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 59 563	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 177 432	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 1 684 974	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 240 247	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 63 743	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 176 504	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 24 460	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 1 900 761	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 106 146	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 15 510	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 7 407	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 8 103	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 9 466	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 92	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 32 345	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 92	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 1 639	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 92	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 1 108	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 92	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 613		
Response coverage ratio ⁴	percent.. 92		
Cost of purchased advertising services ³	\$1,000.. 452		
Response coverage ratio ⁴	percent.. 92		
Cost of purchased software and other data processing services ³	\$1,000.. 461		
Response coverage ratio ⁴	percent.. 92		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 224		
Response coverage ratio ⁴	percent.. 92		
3131121, Yarn texturing, throwing, & twisting mills—manufacturer		3131122, Yarn texturing, throwing, & twisting mills—commission finisher	
Companies ¹	number.. N	Companies ¹	number.. N
All establishments	number.. 127	All establishments	number.. 7
Establishments with 1 to 19 employees	number.. 33	Establishments with 1 to 19 employees	number.. 1
Establishments with 20 to 99 employees	number.. 30	Establishments with 20 to 99 employees	number.. 4
Establishments with 100 employees or more	number.. 64	Establishments with 100 employees or more	number.. 2
All employees	number.. 19 343	All employees	number.. 901
Total compensation ²	\$1,000.. 554 724	Total compensation ²	\$1,000.. 26 506
Annual payroll	\$1,000.. 458 925	Annual payroll	\$1,000.. 21 763
Total fringe benefits	\$1,000.. 95 799	Total fringe benefits	\$1,000.. 4 743
Production workers, average for year	number.. 824	Production workers, average for year	number.. 824
Production workers on March 12	number.. 837	Production workers on March 12	number.. 837
Production workers on May 12	number.. 837	Production workers on May 12	number.. 837
Production workers on August 12	number.. 809	Production workers on August 12	number.. 809
Production workers on November 12	number.. 813	Production workers on November 12	number.. 813
Production-worker hours	1,000.. 1 831	Production-worker hours	1,000.. 1 831
Production-worker wages	\$1,000.. 18 313	Production-worker wages	\$1,000.. 18 313

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313112, YARN TEXTURING, THROWING, & TWISTING MILLS—Con.		313112, YARN TEXTURING, THROWING, & TWISTING MILLS—Con.	
3131122, Yarn texturing, throwing, & twisting mills—commission finisher—Con.		3131122, Yarn texturing, throwing, & twisting mills—commission finisher—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	\$1,000..	Finished goods inventories, end of year	\$1,000..
Cost of resales	\$1,000..	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	\$1,000..	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	\$1,000..	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	\$1,000..	Total capital expenditures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Total value of shipments	\$1,000..	Total retirements ²	\$1,000..
Primary products value of shipments	\$1,000..	Gross book value of total assets at end of year	\$1,000..
Secondary products value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Total miscellaneous receipts	\$1,000..	Total rental payments ²	\$1,000..
Value of resales	\$1,000..	Buildings and other structures rental payments ²	\$1,000..
Contract receipts	\$1,000..	Machinery and equipment rental payments ²	\$1,000..
Other miscellaneous receipts	\$1,000..	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Coverage ratio	percent..	Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased legal services ³	\$1,000..
Total inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Finished goods inventories, beginning of year	\$1,000..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
Work-in-process inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Materials and supplies inventories, beginning of year	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased software and other data processing services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313112, YARN TEXTURING, THROWING, & TWISTING MILLS												
All establishments	-	134	100	20 244	480 688	18 036	36 891	375 904	1 068 758	3 058 029	4 150 043	240 247
Establishments with 1 to 4 employees	9	14	-	33	667	32	65	555	1 518	4 576	6 280	202
Establishments with 5 to 9 employees	8	7	-	44	720	38	73	547	1 769	5 009	6 909	192
Establishments with 10 to 19 employees	5	13	-	188	3 793	160	313	2 855	8 739	20 660	30 150	1 038
Establishments with 20 to 49 employees	1	20	20	633	13 845	521	982	7 891	20 824	49 533	71 129	2 252
Establishments with 50 to 99 employees	-	14	14	993	23 159	795	1 534	15 380	41 050	114 206	157 876	2 421
Establishments with 100 to 249 employees	-	37	37	5 884	139 413	5 232	10 634	104 241	279 466	735 820	1 013 219	26 415
Establishments with 250 to 499 employees	-	25	25	8 820	202 422	7 981	16 611	167 734	485 782	1 361 608	1 865 229	73 542
Establishments with 500 to 999 employees	-	3	3	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	21	-	175	3 041	162	298	2 537	7 176	22 039	30 109	968

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313112	Yarn texturing, throwing, & twisting mills	134	20 244	480 688	18 036	36 891	375 904	1 068 758	3 058 029	4 150 043	240 247
3131121	Novelty and plied yarns, other than wool (not spun or thrown at the same establishment)	11	749	17 127	578	859	9 300	44 236	80 947	128 717	3 267
3131123	Thrown filament yarns, except textured	36	5 961	129 679	5 499	11 378	109 606	225 362	728 812	962 399	16 622
3131125	Textured, crimped, or bulked filament yarns, including stretch yarn (made from purchased filament yarn)	45	12 151	305 304	10 804	22 363	236 421	761 843	2 189 407	2 963 418	217 216
3131127	Commission receipts for throwing or texturing of filament yarns	7	598	13 292	437	825	8 328	24 269	30 019	53 325	1 947

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313112	Textured, thrown, plied, and twisted yarns	N	X	X	4 339 014	N	X	X	N
3131121	Novelty and plied yarns, other than wool (not spun or thrown at the same establishment)	N	X	X	156 841	N	X	X	N
31311211	Novelty and plied yarns, other than wool (not spun or thrown at the same establishment)	N	X	X	156 841	N	X	X	N
3131121111	Novelty yarns, other than wool, not spun or thrown at the same establishment.	7	X	X	65 141	N	X	X	N
3131121121	Plied yarns, other than wool (not spun or thrown at the same establishment)mil lb..	9	X	S	91 700	8	X	34.0	79 663
3131121Y	Novelty and plied yarns, other than wool (not spun or thrown at the same establishment), nsk	N	X	X	-	N	X	X	N
3131121YVW	Novelty and plied yarns, other than wool (not spun or thrown at the same establishment), nsk	N	X	X	-	N	X	X	N
3131123	Thrown filament yarns, except textured	N	X	X	1 022 330	N	X	X	332 696
31311231	Thrown filament yarns, except textured, nylon yarns	N	X	X	722 658	N	X	X	N
3131123111	Thrown filament yarns, except textured, nylon yarnsmil lb..	31	X	371.4	722 658	22	X	76.0	188 323
31311232	Thrown filament yarns, except textured, polyester and all other thrown yarns	N	X	X	291 801	N	X	X	N
3131123221	Thrown filament yarns, except textured, polyester yarnsmil lb..	27	X	83.7	168 197	20	X	28.3	83 191
3131123231	Thrown filament yarns, except textured, all other thrown yarnsmil lb..	13	X	63.7	123 604	15	X	33.7	55 263
3131123Y	Thrown filament yarns, except textured, nsk	N	X	X	7 871	N	X	X	N
3131123YVW	Thrown filament yarns, except textured, nsk	N	X	X	7 871	N	X	X	5 919
3131125	Textured, crimped, or bulked filament yarns, including stretch yarn (made from purchased filament yarn) @	N	X	X	3 082 822	N	X	X	2 376 826
31311251	Textured, crimped, or bulked filament yarns, including stretch yarn (made from purchased filament yarn)	N	X	X	3 082 822	N	X	X	N
3131125100	Textured, crimped, or bulked filament yarns, including stretch yarn (made from purchased filament yarn) \$.mil lb..	43	3 529.7	2 223.6	3 082 822	46	1 752.3	1 264.2	2 376 826
3131127	Commission receipts for throwing or texturing of filament yarns	N	X	X	43 213	N	X	X	N
31311271	Commission receipts for throwing or texturing of filament yarns	N	X	X	43 213	N	X	X	N
3131127100	Commission receipts for throwing or texturing of filament yarns	17	X	X	43 213	N	X	X	N
313112W	Textured, thrown, plied, and twisted yarns, nsk, total	N	X	X	33 808	N	X	X	N
313112WY	Textured, thrown, plied, and twisted yarns, nsk, total	N	X	X	33 808	N	X	X	N
313112WYVW	Textured, thrown, plied, and twisted yarns, nsk, for nonadministrative-record establishments	N	X	X	6 720	N	X	X	N
313112WYVY	Textured, thrown, plied, and twisted yarns, nsk, for administrative-record establishments	N	X	X	27 088	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3131121	NOVELTY AND PLIED YARNS, OTHER THAN WOOL (NOT SPUN OR THROWN AT THE SAME ESTABLISHMENT)		
	United States	156 841	N
	Georgia	20 963	N
	North Carolina	75 151	N
	Pennsylvania	15 135	N
3131123	THROWN FILAMENT YARNS, EXCEPT TEXTURED		
	United States	1 022 330	332 696
	Georgia	620 623	65 649
	New Jersey	14 856	6 563
	North Carolina	110 987	105 210
	Virginia	160 037	N
3131125	TEXTURED, CRIMPED, OR BULKED FILAMENT YARNS, INCLUDING STRETCH YARN (MADE FROM PURCHASED FILAMENT YARN) @		
	United States	3 082 822	2 376 826
	Georgia	680 873	690 743
	North Carolina	1 629 145	1 154 173
	Virginia	157 256	207 096
3131127	COMMISSION RECEIPTS FOR THROWING OR TEXTURING OF FILAMENT YARNS		
	United States	43 213	N
	Georgia	26 444	N
	North Carolina	10 690	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313112	YARN TEXTURING, THROWING, & TWISTING MILLS				
11192001	Raw cotton fibers 1,000 bales ..	D	D	N	N
00999829	All other fibers (silk, jute, reused wool, waste, etc.)	1.2	4 342	N	N
32522105	Rayon and acetate staple and tow	D	D	N	N
32522223	Polyester staple and tow	210.3	161 290	N	N
32522215	Nylon staple and tow	166.7	164 130	N	N
31311101	Spun yarn, all fibers	61.5	40 523	N	N
32522221	Polyester filament yarns	875.5	952 903	N	N
32522211	Nylon filament yarns	789.6	1 282 682	N	N
32522205	All other manmade filament yarns	S	72 984	N	N
32513003	Dyes, lakes, and toners	X	25 794	N	N
00970099	All other materials and components, parts, containers, and supplies	X	91 108	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	88 771	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313112 YARN TEXTURIZING, THROWING, AND TWISTING MILLS

This U.S. industry comprises establishments primarily engaged in texturizing, throwing, twisting, spooling, or winding purchased yarns or manmade fiber filaments.

The data published with NAICS code 313112 include the following SIC industry:

2282 Yarn throwing and winding mills (pt)

3131121 Yarn Texturing, Throwing, and Twisting Mills - Manufacturer

Establishments primarily engaged in texturing, throwing, twisting, spooling, or winding purchased yarns or manmade filaments.

3131122 Yarn Texturing, Throwing, and Twisting Mills - Commission Finisher

Establishments primarily engaged in throwing, twisting, spooling, or winding yarns or manmade filaments on a commission basis.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3131125	For additional detail, see Current Industrial Report MA313F, Yarn Production.
\$ 3131125100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F10	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	2211002	2211002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	22296 pt	22296 pt	3132220	23970	23970
3131123YVW	2282300	2282300	313210N111	2221H10	2221H10	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N121 pt	2221H20	2221H20	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N121 pt	2229605	2229601 pt	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2229608	2229603 pt	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H00	2221H00	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210NYVW	2229600 pt	2229600 pt	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210P	2221J	2221J	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210P111	2221J01	2221J01	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210P121	2221J03	2221J03	3132301121 pt	2297132 pt	2297133 pt
3131130 pt	22840 pt	22840 pt	313210P131	2221J05	2221J05	3132301121 pt	2297132 pt	2297133 pt
3131130 pt	22990 pt	22990 pt	313210P141 pt	2221J12 pt	2221J07	3132301131 pt	2297124 pt	2297121
3131130111	22996 pt	22996 pt	313210P141 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297123
3131130111	2284010	2284010 pt	313210P151	2221J13	2221J13	3132301131 pt	2297124 pt	2297125
3131130121	2284023	2284023 pt	313210P161	2221J15	2221J15	3132301131 pt	2297124 pt	2297125
3131130131 pt	2284045 pt	2284041	313210P171	2221J19	2221J19	3132301141 pt	2297134 pt	2297133 pt
3131130131 pt	2284045 pt	2284051 pt	313210P181	2221J23	2221J23	3132301141 pt	2297134 pt	2297135 pt
3131130141 pt	2284047 pt	2284043 pt	313210P191	2221J25	2221J25	3132301151 pt	2297136 pt	2297131 pt
3131130141 pt	2284047 pt	2284051 pt	313210P1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297133 pt
3131130151 pt	2284035 pt	2284031 pt	313210P1D1	2221J29	2221J29	3132301151 pt	2297136 pt	2297135 pt
3131130151 pt	2284035 pt	2284051 pt	313210P1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297131 pt
3131130161 pt	2284037 pt	2284033 pt	313210PYVW	2221J00	2221J00	3132301161 pt	2297142 pt	2297133 pt
3131130161 pt	2284037 pt	2284051 pt	313210Q	2221K	2221K	3132301161 pt	2297142 pt	2297135 pt
3131130171	2284081	2284010 pt	313210Q000	2221K00	2221K00	3132301YVW	2297100	2297100
3131130181	2284083	2284023 pt	313210R	2221M	2221M	3132303	22972	22972
3131130191	2284085	2284031 pt	313210R111 pt	2221M06 pt	2221M01 pt	3132303111	2297241	2297241
31311301A1	2284087	2284033 pt	313210R121 pt	2221M06 pt	2221M03 pt	3132303121	2297203	2297203
31311301C1	2284061	2284061	313210R131 pt	2221M08 pt	2221M01 pt	3132303131	2297205	2297205
31311301D1	2299607	2299603 pt	313210R141 pt	2221M11 pt	2221M03 pt	3132303141	2297251	2297251
3131130YVW pt	2284000 pt	2284000 pt	313210R141 pt	2221M16 pt	2221M01 pt	3132303251	2297298	2297298
3131130YVW pt	2299000 pt	2299000 pt	313210R141 pt	2221M16 pt	2221M03 pt	3132303YVW	2297200	2297200
3131130YVW pt	2299600 pt	2299600 pt	313210RYVW	2221M00	2221M00	3132305	22991	22991
3131130YVW pt	2284002 pt	2284002 pt	313210T	22312	22312	3132305111	2299111	2299111
3131130YVW pt	2299002 pt	2299002 pt	313210T100	2231200	2231200	3132305221	2299135	2299135
3132101	2211B	2211B	313210U	22316 pt	22316 pt	3132305331	2299147	2299147
3132101100	2211B00	2211B00	313210U100 pt	2231611	2231600 pt	3132305YVW	2299100	2299100
3132103	2211C	2211C	313210U100 pt	2231600 pt	2231600 pt	313230W pt	22970	22970
3132103100	2211C00	2211C00						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115241 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115691 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071 pt.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071 pt.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	3133115811 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			3133115811 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912 pt.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918 pt.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
3132495100.....	2258500.....	2258500.....	3133117261 pt.....	2262918 pt.....	2262919.....	3133120YVW pt.....	2257300 pt.....	2257300 pt.....
			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
3132497.....	22589 pt.....	22589 pt.....	3133117381.....	2262927.....	2262927.....	3133120YVW pt.....	2258400 pt.....	2258400 pt.....
3132497111.....	2258913.....	2258913.....	3133117491.....	2262925.....	2262925.....	3133120YVW pt.....	2258900 pt.....	2258900 pt.....
3132497121.....	2258917.....	2258917.....	31331175B1.....	2262929.....	2262929.....	3133120YVW pt.....	2269000.....	2269000 pt.....
3132497YVW.....	2258900 pt.....	2258900 pt.....	31331175D1.....	2262931.....	2262931.....			
3132497YVW.....	2258902.....	2258902.....	3133117YVW.....	2262900.....	2262900.....	3133120YVW pt.....	2282000 pt.....	2282000 pt.....
						3133120YVW pt.....	2282200 pt.....	2282200 pt.....
3132499.....	22590 pt.....	22590 pt.....	3133119 pt.....	22316 pt.....	22316 pt.....	3133120YVW pt.....	2282900 pt.....	2282900 pt.....
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Thread Mills

1997

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1997 Economic Census

Manufacturing

Industry Series



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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313113	Thread mills	46	52	3 761	80 802	3 351	7 109	62 357	145 652	387 870	531 821	18 911
228410	Thread mills (pt)	N	51	D	D	D	D	D	D	D	D	D
229920	Textile goods, n.e.c. (pt)	N	1	D	D	D	D	D	D	D	D	D

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313113, THREAD MILLS												
United States	2	52	31	3 761	80 802	3 351	7 109	62 357	145 652	387 870	531 821	18 911
California	2	8	2	133	2 009	120	206	1 569	4 403	17 910	22 313	707
New York	2	7	3	163	2 682	155	300	2 185	3 493	11 126	14 102	252
North Carolina	1	8	7	1 917	43 927	1 739	3 799	35 261	77 152	255 366	330 947	13 874
Pennsylvania	2	7	6	392	7 817	338	674	5 273	19 349	20 722	39 923	959

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313113, THREAD MILLS		313113, THREAD MILLS—Con.	
Companies ¹	number.. 46	Value added	\$1,000.. 145 652
All establishments	number.. 52	Total inventories, beginning of year	\$1,000.. 51 837
Establishments with 1 to 19 employees	number.. 21	Finished goods inventories, beginning of year	\$1,000.. 19 735
Establishments with 20 to 99 employees	number.. 22	Work-in-process inventories, beginning of year	\$1,000.. 18 103
Establishments with 100 employees or more	number.. 9	Materials and supplies inventories, beginning of year	\$1,000.. 13 999
All employees	number.. 3 761	Total inventories, end of year	\$1,000.. 53 128
Total compensation ²	\$1,000.. 105 052	Finished goods inventories, end of year	\$1,000.. 21 557
Annual payroll	\$1,000.. 80 802	Work-in-process inventories, end of year	\$1,000.. 17 982
Total fringe benefits	\$1,000.. 24 250	Materials and supplies inventories, end of year	\$1,000.. 13 589
Production workers, average for year	number.. 3 351	Gross book value of total assets at beginning of year	\$1,000.. 225 807
Production workers on March 12	number.. 3 308	Total capital expenditures (new and used)	\$1,000.. 18 911
Production workers on May 12	number.. 3 321	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 2 007
Production workers on August 12	number.. 3 367	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 16 904
Production workers on November 12	number.. 3 412	Total retirements ²	\$1,000.. 5 578
Production-worker hours	1,000.. 7 109	Gross book value of total assets at end of year	\$1,000.. 239 140
Production-worker wages	\$1,000.. 62 357	Total depreciation during year ²	\$1,000.. 14 964
Total cost of materials	\$1,000.. 387 870	Total rental payments ²	\$1,000.. 1 612
Cost of materials, parts, containers, etc., consumed	\$1,000.. 367 966	Buildings and other structures rental payments ²	\$1,000.. 839
Cost of resales	\$1,000.. 1 763	Machinery and equipment rental payments ²	\$1,000.. 773
Cost of fuels	\$1,000.. 3 358	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 223
Cost of purchased electricity	\$1,000.. 12 888	Response coverage ratio ⁴	percent.. 93
Cost of contract work	\$1,000.. 1 895	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 489
Quantity of electricity purchased for heat and power	1,000 kWh.. 238 628	Response coverage ratio ⁴	percent.. 93
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Cost of purchased communications services ³	\$1,000.. 162
Total value of shipments	\$1,000.. 531 821	Response coverage ratio ⁴	percent.. 93
Primary products value of shipments	\$1,000.. 524 745	Cost of purchased legal services ³	\$1,000.. 90
Secondary products value of shipments	\$1,000.. 4 348	Response coverage ratio ⁴	percent.. 93
Total miscellaneous receipts	\$1,000.. 2 728	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 23
Value of resales	\$1,000.. 2 239	Response coverage ratio ⁴	percent.. 93
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 51
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 93
Primary products specialization ratio	percent.. 99	Cost of purchased software and other data processing services ³	\$1,000.. 31
Value of primary products shipments made in all industries	\$1,000.. 711 482	Response coverage ratio ⁴	percent.. 93
Value of primary products shipments made in this industry	\$1,000.. 524 745	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 175
Value of primary products shipments made in other industries	\$1,000.. 186 737	Response coverage ratio ⁴	percent.. 93
Coverage ratio	percent.. 73		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
	E ¹	Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313113, THREAD MILLS												
All establishments	2	52	31	3 761	80 802	3 351	7 109	62 357	145 652	387 870	531 821	18 911
Establishments with 1 to 4 employees	9	9	—	26	598	23	48	480	940	2 239	3 179	127
Establishments with 5 to 9 employees	9	2	—	D	D	D	D	D	D	D	D	D
Establishments with 10 to 19 employees	7	10	—	148	2 509	134	247	1 895	3 688	8 813	12 333	438
Establishments with 20 to 49 employees	3	14	14	460	9 509	401	796	6 633	20 152	37 563	56 561	2 441
Establishments with 50 to 99 employees	1	8	8	519	9 882	428	902	6 819	17 091	45 929	64 832	1 403
Establishments with 100 to 249 employees	2	6	6	1 045	22 474	928	1 937	17 157	36 365	69 183	104 455	1 480
Establishments with 250 to 499 employees	2	2	2	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	10	—	131	1 727	118	147	1 378	2 926	6 694	9 620	399

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313113	Thread mills	52	3 761	80 802	3 351	7 109	62 357	145 652	387 870	531 821	18 911

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313113	Thread	N	X	X	711 482	N	X	X	N
3131130	Thread.....	N	X	X	711 482	N	X	X	N
31311301	Thread.....	N	X	X	695 698	N	X	X	N
3131130111	Spun yarn thread, cotton, finished, for use in the home..... mil lb..	3	X	D	D	N	X	X	N
3131130121	Spun yarn thread, cotton, finished, for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, and twine)..... mil lb..	13	X	¶103.2	152 831	N	X	X	N
3131130131	Spun yarn thread, manmade fiber and other fibers, including silk, finished, for use in the home..... mil lb..	2	X	D	D	N	X	X	N
3131130141	Spun yarn thread, manmade fiber and other fibers, including silk, finished, for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, and twine)..... mil lb..	8	X	¶16.2	69 124	N	X	X	N
3131130151	Filament yarn thread, manmade fiber and other fibers, including silk, finished, for use in the home..... mil lb..	1	X	D	D	N	X	X	N
3131130161	Filament yarn thread, manmade fiber and other fibers, including silk, finished, for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, and twine)..... mil lb..	8	X	¶36.9	201 717	N	X	X	N
3131130171	Core thread, cotton sheath, finished thread for use in the home..... mil lb..	-	X	-	-	N	X	X	N
3131130181	Core thread, cotton sheath, finished thread for industrial or manufacturers' use..... mil lb..	1	X	D	D	N	X	X	N
3131130191	Core thread, manmade sheath, finished thread for use in the home..... mil lb..	-	X	-	-	N	X	X	N
31311301A1	Core thread, manmade sheath, finished thread for industrial or manufacturers' use..... mil lb..	3	X	D	D	N	X	X	N
31311301C1	Unfinished thread shipped or transferred to other plants for finishing..... mil lb..	1	X	D	D	3	X	D	D
31311301D1	Linen thread.....	1	X	X	D	N	X	X	N
3131130Y	Thread mills, nsk, total.....	N	X	X	15 784	N	X	X	N
3131130YWW	Thread mills, nsk, for nonadministrative-record establishments.....	N	X	X	6 190	N	X	X	N
3131130YWY	Thread mills, nsk, for administrative-record establishments.....	N	X	X	9 594	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; ¶ 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313113	THREAD MILLS				
32522227	All other manmade fiber staple and tow (except glass) mil lb..	-	-	N	N
11192001	Raw cotton fibers 1,000 bales..	D	D	N	N
32522215	Nylon staple and tow mil lb..	D	D	N	N
32522105	Rayon and acetate staple and tow mil lb..	D	D	N	N
32522223	Polyester staple and tow mil lb..	D	D	N	N
32522225	Acrylic staple and tow mil lb..	-	-	N	N
31311101	Spun yarn, all fibers mil lb..	P14.8	137 547	N	N
32522211	Nylon filament yarns mil lb..	P7.8	55 165	N	N
32522221	Polyester filament yarns mil lb..	13.9	24 342	N	N
32522205	All other manmade filament yarns mil lb..	S	6 240	N	N
32513003	Dyes, lakes, and toners	X	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	28 862	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	9 210	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313113 THREAD MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing thread (e.g., sewing, hand-knitting, crochet) of all fibers.

The data published with NAICS code 313113 include the following SIC industries:

- 2284 Thread mills (pt)
- 2299 Textile goods, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
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3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
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3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
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313112W	22820 pt	22820 pt	313210N121 pt	2221H12 pt	2221H07	3132301121 pt	2297132 pt	2297133 pt
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3131130 pt	22840 pt	22840 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297123
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1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
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Broadwoven Fabric Mills

1997

Issued November 1999

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1997 Economic Census

Manufacturing

Industry Series



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313210	Broadwoven fabric mills	733	909	132 898	3 431 910	115 883	241 991	2 726 683	7 491 442	10 638 091	18 233 393	894 286
221100	Weaving mills, cotton	N	398	46 426	1 169 740	42 157	85 614	987 195	2 369 679	3 806 164	6 195 171	306 305
222100	Weaving mills, synthetics	N	452	77 123	2 024 968	65 667	140 277	1 557 577	4 662 636	5 949 945	10 682 267	547 505
223110	Weaving & finishing mills, wool (pt)	N	40	9 227	234 278	7 963	15 919	179 995	451 575	876 874	1 343 310	40 140
229930	Textile goods, n.e.c. (pt)	N	19	122	2 924	96	181	1 916	7 552	5 108	12 645	336

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313210, BROADWOVEN FABRIC MILLS												
United States	1	909	411	132 898	3 431 910	115 883	241 991	2 726 683	7 491 442	10 638 091	18 233 393	894 286
Alabama	-	24	20	9 309	252 765	8 467	18 914	217 165	526 140	710 142	1 233 921	73 324
Arizona	2	8	1	118	2 475	101	186	2 111	6 372	7 078	13 324	290
California	5	82	11	1 463	27 433	1 353	2 154	23 152	52 492	65 827	119 261	4 145
Florida	6	42	3	396	9 099	336	614	6 478	23 877	20 161	43 936	2 081
Georgia	1	74	52	21 328	542 333	18 745	40 541	435 896	1 317 234	1 797 174	3 125 643	129 388
Maine	2	16	7	2 255	53 639	1 536	2 911	35 914	106 046	96 801	200 475	17 339
Massachusetts	1	22	11	3 274	101 729	2 697	6 458	73 280	175 142	186 680	368 300	29 135
Michigan	7	15	3	233	6 208	212	395	4 920	14 743	19 847	34 596	1 595
Minnesota	2	8	3	303	8 849	251	543	5 830	19 702	27 902	47 764	1 071
New Jersey	3	29	6	672	18 598	547	1 076	11 614	39 538	55 811	95 119	4 522
New York	5	60	16	1 510	57 298	1 241	2 475	29 392	123 616	201 101	323 772	9 801
North Carolina	1	112	77	33 072	846 714	28 810	60 358	685 508	1 575 327	2 872 576	4 476 299	222 202
Ohio	6	23	5	471	11 009	390	637	7 081	24 191	22 634	47 315	1 958
Oregon	-	6	2	111	2 181	70	142	1 757	5 958	9 291	14 905	261
Pennsylvania	2	43	24	3 352	85 636	2 786	5 929	64 168	210 863	241 028	450 726	28 844
Rhode Island	-	11	6	1 009	28 390	842	1 818	19 283	44 961	74 229	123 205	1 887
South Carolina	-	123	104	32 014	814 797	28 665	57 687	665 849	1 853 243	2 497 398	4 389 452	238 187
Tennessee	-	15	8	2 282	58 835	2 028	4 116	47 907	130 827	127 200	251 489	9 974
Texas	-	32	8	2 189	57 520	1 931	3 659	44 136	181 373	160 669	339 530	7 517
Virginia	2	30	23	13 676	341 162	11 517	24 785	261 374	813 061	1 231 492	2 078 540	81 535
Washington	1	16	2	383	8 621	308	447	6 468	9 874	16 746	26 020	645

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313210, BROADWOVEN FABRIC MILLS		313210, BROADWOVEN FABRIC MILLS—Con.	
Companies ¹	number.. 733	Value added	\$1,000.. 7 491 442
All establishments	number.. 909	Total inventories, beginning of year	\$1,000.. 2 512 173
Establishments with 1 to 19 employees	number.. 498	Finished goods inventories, beginning of year	\$1,000.. 1 010 284
Establishments with 20 to 99 employees	number.. 123	Work-in-process inventories, beginning of year	\$1,000.. 888 135
Establishments with 100 employees or more	number.. 288	Materials and supplies inventories, beginning of year	\$1,000.. 613 754
All employees	number.. 132 898	Total inventories, end of year	\$1,000.. 2 379 165
Total compensation ²	\$1,000.. 4 179 449	Finished goods inventories, end of year	\$1,000.. 964 399
Annual payroll	\$1,000.. 3 431 910	Work-in-process inventories, end of year	\$1,000.. 830 160
Total fringe benefits	\$1,000.. 747 539	Materials and supplies inventories, end of year	\$1,000.. 584 606
Production workers, average for year	number.. 115 883	Gross book value of total assets at beginning of year	\$1,000.. 10 374 026
Production workers on March 12	number.. 115 488	Total capital expenditures (new and used)	\$1,000.. 894 286
Production workers on May 12	number.. 116 625	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 105 020
Production workers on August 12	number.. 115 603	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 789 266
Production workers on November 12	number.. 115 816	Total retirements ²	\$1,000.. 334 357
Production-worker hours	1,000.. 241 991	Gross book value of total assets at end of year	\$1,000.. 10 933 955
Production-worker wages	\$1,000.. 2 726 683	Total depreciation during year ²	\$1,000.. 679 443
Total cost of materials	\$1,000.. 10 638 091	Total rental payments ²	\$1,000.. 157 034
Cost of materials, parts, containers, etc., consumed	\$1,000.. 9 640 929	Buildings and other structures rental payments ²	\$1,000.. 90 302
Cost of resales	\$1,000.. 146 802	Machinery and equipment rental payments ²	\$1,000.. 66 732
Cost of fuels	\$1,000.. 123 282	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 49 084
Cost of purchased electricity	\$1,000.. 507 295	Response coverage ratio ⁴	percent.. 77
Cost of contract work	\$1,000.. 219 783	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 167 042
Quantity of electricity purchased for heat and power	1,000 kWh.. 12 160 373	Response coverage ratio ⁴	percent.. 77
Quantity of electricity generated less sold for heat and power	1,000 kWh.. 7 836	Cost of purchased communications services ³	\$1,000.. 14 061
Total value of shipments	\$1,000.. 18 233 393	Response coverage ratio ⁴	percent.. 77
Primary products value of shipments	\$1,000.. 17 008 437	Cost of purchased legal services ³	\$1,000.. 5 716
Secondary products value of shipments	\$1,000.. 945 720	Response coverage ratio ⁴	percent.. 77
Total miscellaneous receipts	\$1,000.. 279 236	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 4 707
Value of resales	\$1,000.. 175 696	Response coverage ratio ⁴	percent.. 77
Contract receipts	\$1,000.. 72 762	Cost of purchased advertising services ³	\$1,000.. 3 268
Other miscellaneous receipts	\$1,000.. 30 778	Response coverage ratio ⁴	percent.. 77
Primary products specialization ratio	percent.. 94	Cost of purchased software and other data processing services ³	\$1,000.. 7 577
Value of primary products shipments made in all industries	\$1,000.. 17 372 828	Response coverage ratio ⁴	percent.. 77
Value of primary products shipments made in this industry	\$1,000.. 17 008 437	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 7 799
Value of primary products shipments made in other industries	\$1,000.. 364 391	Response coverage ratio ⁴	percent.. 77
Coverage ratio	percent.. 97		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313210, BROADWOVEN FABRIC MILLS												
All establishments	1	909	411	132 898	3 431 910	115 883	241 991	2 726 683	7 491 442	10 638 091	18 233 393	894 286
Establishments with 1 to 4 employees	9	287	—	575	11 503	559	928	9 533	23 765	32 656	56 317	2 894
Establishments with 5 to 9 employees	9	131	—	882	18 142	780	1 400	14 875	37 262	49 885	87 166	4 542
Establishments with 10 to 19 employees	7	80	—	1 065	22 378	923	1 601	16 592	44 419	61 597	105 668	5 169
Establishments with 20 to 49 employees	3	69	69	2 212	53 050	1 835	3 455	37 464	130 965	176 901	306 881	15 299
Establishments with 50 to 99 employees	2	54	54	4 093	110 567	3 441	6 873	73 770	266 579	359 488	621 193	21 187
Establishments with 100 to 249 employees	1	115	115	19 440	557 609	16 746	34 102	432 889	1 482 184	1 893 323	3 406 224	130 515
Establishments with 250 to 499 employees	1	96	96	34 508	862 416	30 629	63 445	698 839	1 951 030	2 687 302	4 656 599	268 190
Establishments with 500 to 999 employees	—	58	58	38 830	973 099	34 087	69 576	789 019	1 876 085	2 954 076	4 852 079	231 481
Establishments with 1,000 to 2,499 employees	1	17	17	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	4	2	2	D	D	D	D	D	D	D	D	D
Administrative records ²	9	428	—	2 340	43 086	2 134	3 541	36 205	87 576	122 402	209 824	11 326

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313210	Broadwoven fabric mills ..	909	132 898	3 431 910	115 883	241 991	2 726 683	7 491 442	10 638 091	18 233 393	894 286
3132101	Cotton broadwoven plain weave fabrics (except pile) (gray goods) ...	28	8 001	200 204	7 272	14 331	168 828	540 138	532 886	1 061 860	54 439
3132103	Cotton broadwoven twill weave fabrics (except pile) (gray goods) ...	30	15 225	394 885	13 767	27 833	328 691	694 101	1 483 265	2 186 972	101 069
3132105	Cotton broadwoven fabrics, weaves other than plain, twill, and pile (gray goods)	12	2 420	69 288	2 108	4 318	54 882	140 599	195 547	347 725	16 566
3132107	Cotton broadwoven pile fabrics (gray goods)	9	2 866	73 211	2 650	5 401	63 264	126 831	199 932	345 714	14 751
3132109	Finished cotton broadwoven fabrics (finished in weaving mills)	14	6 886	157 070	6 278	13 272	133 873	363 628	540 403	891 929	39 319
313210B	Cotton towels and washcloths (made in weaving mills)	5	7 451	200 372	6 819	15 018	176 889	309 989	617 717	930 760	58 879
313210C	Fabricated cotton textile products (except towels and washcloths) (made in weaving mills)	8	1 000	25 945	889	1 879	18 792	100 823	145 410	243 128	5 208
313210E	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns, chiefly rayon, acetate, and/or lyocell (gray goods)	14	2 718	70 105	2 429	5 604	58 530	158 897	378 385	535 570	22 902
313210G	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns (except rayon, acetate, and/or lyocell) (gray goods)	73	21 021	570 529	17 576	37 515	433 624	1 490 156	1 883 181	3 364 186	162 155
313210H	Manmade fiber broadwoven plain weave fabrics of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods)	32	9 258	228 431	8 365	17 049	192 353	557 030	567 133	1 139 616	62 426
313210J	Manmade fiber broadwoven twill weave fabrics of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods)	2	D	D	D	D	D	D	D	D	D
313210L	Manmade fiber broadwoven fabrics, of weaves other than plain, twill, and pile, of 85 percent or more spun yarn, excluding wool blends (gray goods)	20	5 109	129 378	4 064	8 103	97 001	285 600	450 981	739 816	31 415
313210M	Manmade fiber broadwoven fabrics, combinations of spun and filament yarns (except wool blends), each less than 85 percent of total fiber content (gray goods)	33	14 157	379 459	12 729	27 595	309 063	724 215	962 538	1 691 428	110 202
313210N	Other broadwoven fabrics of manmade fibers including pile; and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods)	11	2 437	66 529	2 171	5 199	51 546	163 363	174 730	339 211	13 588

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313210	Broadwoven fabric mills—Con.										
313210P	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills)	38	12 140	337 062	9 724	22 261	235 695	792 149	972 237	1 766 443	84 796
313210R	Fabricated manmade fiber and silk textile products (except sheets and pillowcases) (made in weaving mills)	18	6 448	156 040	5 265	10 973	110 992	329 959	249 241	617 580	44 107
313210T	Wool broadwoven fabrics (gray goods)	12	3 240	80 722	2 916	5 842	69 185	107 481	274 385	382 930	9 110
313210U	Finished broadwoven wool fabrics and felts (finished in weaving mills) .	12	5 028	128 337	4 242	8 635	95 269	294 969	559 125	869 727	27 378
313210V	Fabricated textile products, 36 percent or more wool (made in weaving mills)	4	882	23 513	737	1 316	14 181	46 743	40 392	85 338	3 540

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313210	Broadwoven fabrics	N	X	X	17 372 828	N	X	X	N
3132101	Cotton broadwoven plain weave fabrics (except pile) (gray goods) @	N	X	X	972 249	N	X	X	941 436
31321011	Cotton broadwoven plain weave fabrics (except pile) (gray goods)	N	X	X	972 249	N	X	X	N
3132101100	Cotton broadwoven plain weave fabrics (except pile) (gray goods) mil sq yd. .	42	P2 474.2	2 336.8	972 249	45	2 239.9	1 152.0	941 436
3132103	Cotton broadwoven twill weave fabrics (except pile) (gray goods) @	N	X	X	2 000 932	N	X	X	1 381 677
31321031	Cotton broadwoven twill weave fabrics (except pile) (gray goods)	N	X	X	2 000 932	N	X	X	N
3132103100	Cotton broadwoven twill weave fabrics (except pile) (gray goods) mil sq yd. .	28	P1 818.3	1 449.6	2 000 932	28	1 460.2	1 036.5	1 381 677
3132105	Cotton broadwoven fabrics, weaves other than plain, twill, or pile (gray goods) @	N	X	X	427 214	N	X	X	535 135
31321051	Cotton broadwoven fabrics, weaves other than plain, twill, or pile (gray goods)	N	X	X	427 214	N	X	X	N
3132105100	Cotton broadwoven fabrics, weaves other than plain, twill, or pile (gray goods) mil sq yd. .	39	Q359.4	Q338.8	427 214	34	469.1	386.9	535 135
3132107	Cotton broadwoven pile fabrics (gray goods) @	N	X	X	375 689	N	X	X	300 859
31321071	Cotton broadwoven pile fabrics (gray goods)	N	X	X	375 689	N	X	X	N
3132107100	Cotton broadwoven pile fabrics (gray goods) mil sq yd. .	9	Q433.5	S	375 689	14	474.0	335.5	300 859
3132109	Finished cotton broadwoven fabrics (finished in weaving mills)	N	X	X	874 786	N	X	X	1 253 595
31321091	Finished cotton broadwoven fabrics (finished in weaving mills)	N	X	X	872 744	N	X	X	N
3132109111	Finished cotton broadwoven print cloth (finished in weaving mills) \$	6	X	35.2	42 745	6	D	D	D
3132109121	Finished cotton broadwoven poplin and broadcloth (finished in weaving mills) \$	1	X	D	D	1	D	D	D
3132109131	Finished cotton broadwoven sheeting, plain weave, including bedsheets and osnaburgs (finished in weaving mills) \$	1	X	D	D	4	D	D	D
3132109141	Finished cotton broadwoven tobacco, cheese, and bandage cloth (finished in weaving mills) \$	1	X	D	D	1	D	D	D
3132109151	Finished cotton broadwoven fabrics, other plain weave fabrics (except pile), including lawns, voiles, batistes, and duck (finished in weaving mills) \$	2	X	D	D	N	X	X	N
3132109161	Finished cotton broadwoven twill weave fabrics (finished in weaving mills) \$	7	X	278.0	579 705	9	493.6	490.1	752 911
3132109171	Finished cotton broadwoven fabrics, weaves other than plain, twill, and pile, including sateens, oxfords, table damask, jacquard, and dobby shirting (finished in weaving mills) \$	4	X	24.4	40 482	N	X	X	N
3132109181	Finished cotton broadwoven pile fabrics, including velvets, plushes, corduroy, terry toweling, and terry cloth, (finished in weaving mills) \$	6	X	Q38.6	98 599	6	D	D	D
3132109Y	Finished cotton broadwoven fabrics (finished in weaving mills), nsk	N	X	X	2 042	N	X	X	N
3132109YVW	Finished cotton broadwoven fabrics (finished in weaving mills), nsk	N	X	X	2 042	N	X	X	2 600
313210B	Cotton towels and washcloths (made in weaving mills)	N	X	X	685 656	N	X	X	731 630
313210B1	Cotton towels and washcloths (made in weaving mills)	N	X	X	675 791	N	X	X	N
313210B110	Cotton terry towels and washcloths, including other pile (made in weaving mills) \$	3	X	X	675 791	6	X	X	D
313210B120	Other cotton towels and washcloths, including huck and crash (made in weaving mills) \$	-	X	X	-	1	X	X	D
313210BY	Cotton towels and washcloths (made in weaving mills), nsk	N	X	X	9 865	N	X	X	N
313210BYVW	Cotton towels and washcloths (made in weaving mills), nsk	N	X	X	9 865	N	X	X	-

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313210	Broadwoven fabrics—Con.								
313210C	Fabricated cotton textile products (except towels and washcloths) (made in weaving mills)	N	X	X	505 677	N	X	X	497 620
313210C1	Fabricated cotton textile products (except towels and washcloths) (made in weaving mills)	N	X	X	494 899	N	X	X	N
313210C110	Sheets and pillowcases, chiefly cotton (made in weaving mills) \$	3	X	X	455 066	5	X	X	D
313210C120	Bedspreads, chiefly cotton (made in weaving mills) \$	2	X	X	D	N	X	X	N
313210C130	Comforters and quilts, chiefly cotton (made in weaving mills) \$	5	X	X	11 389	N	X	X	N
313210C141	Other fabricated cotton textile products, made in weaving mills	8	X	X	D	N	X	X	N
313210CY	Fabricated cotton textile products (except towels and washcloths) (made in weaving mills), nsk	N	X	X	10 778	N	X	X	N
313210CYWV	Fabricated cotton textile products (except towels and washcloths) (made in weaving mills), nsk	N	X	X	10 778	N	X	X	—
313210E	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns, chiefly rayon, acetate, and-or lyocell (gray goods) @	N	X	X	538 652	N	X	X	639 686
313210E1	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns, chiefly rayon, acetate, and-or lyocell (gray goods)	N	X	X	538 652	N	X	X	N
313210E100	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns, chiefly rayon, acetate, and-or lyocell (gray goods) ..mil sq yd..	25	¶632.4	¶569.2	538 652	29	799.9	710.9	639 686
313210G	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns (except rayon, acetate, and-or lyocell) (gray goods) @	N	X	X	3 167 653	N	X	X	2 222 868
313210G1	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns (except rayon, acetate, and-or lyocell) (gray goods)	N	X	X	3 167 653	N	X	X	N
313210G100	Manmade fiber broadwoven fabrics of 85 percent or more filament yarns (except rayon, acetate, and-or lyocell) (gray goods) ..mil sq yd..	67	¶5 310.7	4 785.1	3 167 653	71	4 955.7	4 053.7	2 222 868
313210H	Manmade fiber broadwoven plain weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods) @	N	X	X	1 162 434	N	X	X	1 952 706
313210H1	Manmade fiber broadwoven plain weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods)	N	X	X	1 162 434	N	X	X	N
313210H100	Manmade fiber broadwoven plain weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods) ..mil sq yd..	34	¶2 094.6	¶1 906.2	1 162 434	48	3 394.5	3 038.1	1 952 706
313210J	Manmade fiber broadwoven twill weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods) @	N	X	X	198 999	N	X	X	301 704
313210J1	Manmade fiber broadwoven twill weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods)	N	X	X	198 999	N	X	X	N
313210J100	Manmade fiber broadwoven twill weave fabrics, of 85 percent or more spun yarns (except pile), excluding wool blends (gray goods) ..mil sq yd..	19	¶299.8	¶232.8	198 999	21	454.3	305.2	301 704
313210L	Manmade fiber broadwoven fabrics, of weaves other than plain, twill, and pile, of 85 percent or more spun yarn, excluding wool blends (gray goods) @	N	X	X	710 479	N	X	X	359 440
313210L1	Manmade fiber broadwoven fabrics, of weaves other than plain, twill, and pile, of 85 percent or more spun yarn, excluding wool blends (gray goods)	N	X	X	710 479	N	X	X	N
313210L100	Manmade fiber broadwoven fabrics, of weaves other than plain, twill, and pile, of 85 percent or more spun yarn, excluding wool blends (gray goods) ..mil sq yd..	35	S	S	710 479	37	350.9	328.2	359 440
313210M	Manmade fiber broadwoven fabrics, combinations of spun and filament yarns (except wool blends), each less than 85 percent of total fiber content (gray goods) @	N	X	X	1 497 959	N	X	X	1 009 332

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313210	Broadwoven fabrics—Con.								
313210M	Manmade fiber broadwoven fabrics, combinations of spun and filament yarns (except wool blends), each less than 85 percent of total fiber content (gray goods) @—Con.								
313210M1	Manmade fiber broadwoven fabrics, combinations of spun yarn and filament yarns (except wool blends) each less than 85 percent of total fiber content (gray goods).....	N	X	X	1 497 959	N	X	X	N
313210M100	Manmade fiber broadwoven fabrics, combinations of spun and filament yarns (except wool blends), each less than 85 percent of total fiber content (gray goods).....mil sq yd..	35	S	P1 883.6	1 497 959	36	1 285.4	1 253.7	1 009 332
313210N	Other broadwoven fabrics of manmade fibers including pile; and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods) @	N	X	X	375 539	N	X	X	N
313210N1	Other broadwoven fabrics of manmade fibers including pile; and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods)	N	X	X	375 539	N	X	X	N
313210N111	Manmade fiber and silk broadwoven pile fabrics (gray goods)mil sq yd..	7	69.0	22.0	98 382	8	51.5	40.2	142 174
313210N121	Other broadwoven fabrics of manmade fibers including wool blends, and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods)mil sq yd..	11	167.7	172.0	277 157	N	X	X	N
313210NY	Other broadwoven fabrics of manmade fibers including pile; and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods), nsk	N	X	X	—	N	X	X	N
313210NYWV	Other broadwoven fabrics of manmade fibers including pile; and broadwoven fabrics of silk and natural fibers (except cotton) (gray goods), nsk	N	X	X	—	N	X	X	N
313210P	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills)	N	X	X	1 789 850	N	X	X	1 290 996
313210P1	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills)	N	X	X	1 635 267	N	X	X	N
313210P111	Finished manmade fiber broadwoven print cloth, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	9	X	122.5	261 437	4	46.5	P16.5	37 836
313210P121	Finished manmade fiber broadwoven poplin and broadcloth, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	2	X	D	D	5	D	D	D
313210P131	Finished manmade fiber broadwoven sheeting, plain weave, including bedsheets and osnaburgs, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	1	X	D	D	2	D	D	D
313210P141	Finished manmade fiber broadwoven fabrics, other plain weave fabrics (except pile), including lawns, voiles, and batistes, of 85 percent or more spun yarns, (finished in weaving mills) \$. mil fin sq yd..	2	X	D	D	N	X	X	N
313210P151	Finished manmade fiber broadwoven twill weave fabrics, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	3	X	D	D	8	150.8	149.2	322 703
313210P161	Finished manmade fiber broadwoven sateen fabrics, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	3	X	9.9	10 616	2	D	D	D
313210P171	Finished manmade fiber broadwoven fabrics, weaves other than plain, twill, sateen, and pile, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	5	X	S	152 123	4	134.5	133.7	180 933
313210P181	Finished manmade fiber broadwoven pile fabrics, including velvets, plushes, and corduroys, of 85 percent or more spun yarns (finished in weaving mills) \$. mil fin sq yd..	8	X	48.3	168 983	5	19.9	19.9	49 245
313210P191	Finished rayon, acetate, and/or lyocell broadwoven fabrics, of 85 percent or more filament yarns (finished in weaving mills) \$. mil fin sq yd..	3	X	12.7	10 282	3	D	D	D
313210P1B1	Finished polyester broadwoven fabrics, of 85 percent or more filament yarns (finished in weaving mills) \$. mil fin sq yd..	12	X	S	356 450	13	72.3	74.2	145 888

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313210	Broadwoven fabrics—Con.								
313210P	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills)—Con.								
313210P1	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills)—Con.								
313210P1D1	Finished broadwoven fabrics of manmade fibers other than rayon, acetate, lyocell, or polyester, of 85 percent or more filament yarns (finished in weaving mills) \$ mil fin sq yd.	9	X	P142.2	194 123	7	150.3	149.4	197 579
313210P1F1	Other finished broadwoven fabrics, including combinations of spun and filament yarns, blends with wool, silk, and blends with silk (finished in weaving mills) \$ mil fin sq yd.	7	X	S	323 644	7	D	D	D
313210PY	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills), nsk	N	X	X	154 583	N	X	X	N
313210PYWV	Finished manmade fiber and silk broadwoven fabrics (finished in weaving mills), nsk	N	X	X	154 583	N	X	X	4 324
313210Q	Sheets and pillowcases, wholly or chiefly manmade fibers and silk (made in weaving mills)	N	X	X	D	N	X	X	D
313210Q0	Sheets and pillowcases, wholly or chiefly manmade fibers and silk (made in weaving mills)	N	X	X	D	N	X	X	N
313210Q000	Sheets and pillowcases, wholly or chiefly manmade fibers and silk (made in weaving mills) \$	1	X	X	D	3	X	X	D
313210R	Fabricated manmade fiber and silk textile products (except sheets and pillowcases) (made in weaving mills)	N	X	X	D	N	X	X	D
313210R1	Fabricated manmade fiber and silk textile products (except sheets and pillowcases) (made in weaving mills)	N	X	X	D	N	X	X	N
313210R111	Bedspreads, chiefly manmade fibers or silk (made in weaving mills) \$	—	X	X	—	N	X	X	N
313210R121	Comforters and quilts, chiefly manmade fibers or silk (made in weaving mills) \$	1	X	X	D	N	X	X	N
313210R131	Blankets (made in weaving mills) \$	8	X	X	147 712	N	X	X	N
313210R141	Other fabricated manmade fiber and silk textile products (made in weaving mills)	15	X	X	300 973	N	X	X	N
313210RY	Fabricated manmade fiber and silk textile products (except sheets and pillowcases) (made in weaving mills), nsk	N	X	X	9 853	N	X	X	N
313210RYWV	Fabricated manmade fiber and silk textile products (except sheets and pillowcases) (made in weaving mills), nsk	N	X	X	9 853	N	X	X	—
313210T	Wool broadwoven fabrics (gray goods) @	N	X	X	258 345	N	X	X	393 320
313210T1	Wool broadwoven fabrics (gray goods)	N	X	X	258 345	N	X	X	N
313210T100	Wool broadwoven fabrics (gray goods) mil sq yd.	14	160.3	85.2	258 345	18	186.1	121.2	393 320
313210U	Finished broadwoven wool fabrics and felts (finished in weaving mill)	N	X	X	682 535	N	X	X	N
313210U1	Finished broadwoven wool fabrics and felts (finished in weaving mill)	N	X	X	682 535	N	X	X	N
313210U100	Finished broadwoven wool fabrics and felts (finished in weaving mill) mil fin sq yd.	10	X	86.3	682 535	N	X	X	N
313210V	Fabricated textile products, 36 percent or more wool (made in weaving mills)	N	X	X	79 316	N	X	X	D
313210V1	Fabricated textile products, 36 percent or more wool (made in weaving mills)	N	X	X	79 316	N	X	X	N
313210V100	Fabricated textile products, 36 percent or more wool (made in weaving mills)	6	X	X	79 316	N	X	X	N
313210W	Broadwoven fabrics, nsk, total	N	X	X	528 944	N	X	X	N
313210WY	Broadwoven fabrics mills, nsk, total	N	X	X	528 944	N	X	X	N
313210WYWW	Broadwoven fabrics, nsk, for nonadministrative-record establishments	N	X	X	325 692	N	X	X	N
313210WYWY	Broadwoven fabrics, nsk, for administrative-record establishments	N	X	X	203 252	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3132101	COTTON BROADWOVEN PLAIN WEAVE FABRICS (EXCEPT PILE) (GRAY GOODS) @		
	United States	972 249	941 436
	Alabama	163 203	94 401
	California	9 783	N
	Georgia	124 516	248 144
	North Carolina	36 301	96 912
South Carolina	529 931	410 883	
3132103	COTTON BROADWOVEN TWILL WEAVE FABRICS (EXCEPT PILE) (GRAY GOODS) @		
	United States	2 000 932	1 381 677
	Georgia	398 775	290 809
	South Carolina	664 057	407 809
Texas	128 021	N	
3132105	COTTON BROADWOVEN FABRICS, WEAVES OTHER THAN PLAIN, TWILL, OR PILE (GRAY GOODS) @		
	United States	427 214	535 135
	Georgia	57 994	77 038
	North Carolina	168 026	188 750
	Pennsylvania	79 757	28 556
South Carolina	46 575	88 244	
3132107	COTTON BROADWOVEN PILE FABRICS (GRAY GOODS) @		
	United States	375 689	300 859
South Carolina	74 211	N	
3132109	FINISHED COTTON BROADWOVEN FABRICS (FINISHED IN WEAVING MILLS)		
	United States	874 786	1 253 595
	Georgia	334 827	409 776
	Michigan	5 438	N
North Carolina	294 629	448 667	
313210B	COTTON TOWELS AND WASHCLOTHS (MADE IN WEAVING MILLS)		
	United States	685 656	731 630
313210C	FABRICATED COTTON TEXTILE PRODUCTS (EXCEPT TOWELS AND WASHCLOTHS) (MADE IN WEAVING MILLS)		
	United States	505 677	497 620
313210E	MANMADE FIBER BROADWOVEN FABRICS OF 85 PERCENT OR MORE FILAMENT YARNS, CHIEFLY RAYON, ACETATE, AND-OR LYOCCELL (GRAY GOODS) @		
	United States	538 652	639 686
	North Carolina	52 688	90 963
	Pennsylvania	68 437	21 293
	South Carolina	105 629	135 560
	Virginia	118 536	239 399
313210G	MANMADE FIBER BROADWOVEN FABRICS OF 85 PERCENT OR MORE FILAMENT YARNS (EXCEPT RAYON, ACETATE, AND-OR LYOCCELL) (GRAY GOODS) @		
	United States	3 167 653	2 222 868
	Georgia	981 284	610 959
	New York	54 070	35 556
	North Carolina	500 973	384 237
	Pennsylvania	144 828	107 115
	South Carolina	852 562	618 550
	Virginia	306 250	251 308
	North Carolina	120 210	334 011
313210H	MANMADE FIBER BROADWOVEN PLAIN WEAVE FABRICS, OF 85 PERCENT OR MORE SPUN YARNS (EXCEPT PILE), EXCLUDING WOOL BLENDS (GRAY GOODS) @		
	United States	1 162 434	1 952 706
	Georgia	100 750	158 644
	South Carolina	758 788	1 178 422
313210J	MANMADE FIBER BROADWOVEN TWILL WEAVE FABRICS, OF 85 PERCENT OR MORE SPUN YARNS (EXCEPT PILE), EXCLUDING WOOL BLENDS (GRAY GOODS) @		
	United States	198 999	301 704
	Alabama	15 758	N
	South Carolina	101 607	232 032
313210L	MANMADE FIBER BROADWOVEN FABRICS, OF WEAVES OTHER THAN PLAIN, TWILL, AND PILE, OF 85 PERCENT OR MORE SPUN YARN, EXCLUDING WOOL BLENDS (GRAY GOODS) @		
	United States	710 479	359 440
	Georgia	69 804	23 295
	North Carolina	122 982	136 268
	Pennsylvania	43 793	18 832
	South Carolina	241 916	136 972

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
313210M	MANMADE FIBER BROADWOVEN FABRICS, COMBINATIONS OF SPUN AND FILAMENT YARNS (EXCEPT WOOL BLENDS), EACH LESS THAN 85 PERCENT OF TOTAL FIBER CONTENT (GRAY GOODS) @		
	United States	1 497 959	1 009 332
	Georgia	172 994	N
	North Carolina	322 924	358 989
	Pennsylvania	22 793	56 427
	South Carolina	377 127	242 142
	Virginia	134 532	N
313210N	OTHER BROADWOVEN FABRICS OF MANMADE FIBERS INCLUDING PILE; AND BROADWOVEN FABRICS OF SILK AND NATURAL FIBERS (EXCEPT COTTON) (GRAY GOODS) @		
	United States	375 539	N
	North Carolina	225 031	N
	South Carolina	52 132	N
313210P	FINISHED MANMADE FIBER AND SILK BROADWOVEN FABRICS (FINISHED IN WEAVING MILLS)		
	United States	1 789 850	1 290 996
	Georgia	98 912	133 434
	Massachusetts	30 191	N
	North Carolina	818 572	308 235
	South Carolina	261 141	220 874
	Virginia	245 004	215 232
313210Q	SHEETS AND PILLOWCASES, WHOLLY OR CHIEFLY MANMADE FIBERS AND SILK (MADE IN WEAVING MILLS)		
	United States	D	D
313210R	FABRICATED MANMADE FIBER AND SILK TEXTILE PRODUCTS (EXCEPT SHEETS AND PILLOWCASES) (MADE IN WEAVING MILLS)		
	United States	D	D
	North Carolina	48 083	N
313210T	WOOL BROADWOVEN FABRICS (GRAY GOODS) @		
	United States	258 345	393 320
	Pennsylvania	7 139	7 106
313210U	FINISHED BROADWOVEN WOOL FABRICS AND FELTS (FINISHED IN WEAVING MILL)		
	United States	682 535	N
	New Hampshire	67 599	N
313210V	FABRICATED TEXTILE PRODUCTS, 36 PERCENT OR MORE WOOL (MADE IN WEAVING MILLS)		
	United States	79 316	D

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313210	BROADWOVEN FABRIC MILLS				
11192001	Raw cotton fibers	4 164.1	1 685 115	N	N
11200000	Raw wool, mohair, and other animal fibers (scoured weight)	73.9	162 041	N	N
31499905	Wool tops	D	D	N	N
32522105	Rayon and acetate staple and tow	110.8	175 863	N	N
32522215	Nylon staple and tow	P15.4	22 402	N	N
32522223	Polyester staple and tow	656.5	416 526	N	N
32522227	All other manmade fiber staple and tow (except glass)	S	163 543	N	N
00999829	All other fibers (silk, jute, reused wool, waste, etc.)	D	D	N	N
32522101	Rayon, acetate, and/or lyocell filament yarns	140.1	282 724	N	N
32522211	Nylon filament yarns	P168.0	480 792	N	N
32522221	Polyester filament yarns	499.1	869 292	N	N
32522203	All other filament yarns, except glass	231.7	421 975	N	N
32721207	Glass filament yarn and roving	S	306 883	N	N
31311101	Spun yarn, all fibers	1 049.8	1 890 047	N	N
31321027	Broadwoven fabrics	S	737 912	N	N

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1997 and 1992—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313210	BROADWOVEN FABRIC MILLS—Con.				
32513003	Dyes, lakes, and toners	X	231 746	X	N
00970099	All other materials and components, parts, containers, and supplies	X	1 316 849	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	380 013	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313210 BROADWOVEN FABRIC MILLS

This U.S. industry comprises establishments primarily engaged in weaving broadwoven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

The data published with NAICS code 313210 include the following SIC industries:

- 2211 Weaving mills, cotton
- 2221 Weaving mills, synthetics
- 2231 Weaving and finishing mills, wool (pt)
- 2299 Textile goods, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3132101	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@3132103	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@3132105	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@3132107	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
\$ 3132109111	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109121	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109131	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109141	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109151	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109161	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109171	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3132109181	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210B110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210B120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210C110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210C120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210C130	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@313210E	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@313210G	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@313210H	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@313210J	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@313210L	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.

Part 1. Products Statistics (Tables 6a and 6b)—Con.

NAICS product code	Footnote
@313210M	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
@313210N	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.
\$ 313210P111	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P121	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P131	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P141	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P151	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P161	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P171	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P181	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P191	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P1B1	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P1D1	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210P1F1	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210Q000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210R111	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210R121	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 313210R131	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@313210T	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	2211002	2211002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2299002 pt	2299002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2221002	2221002
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	313210WYVW pt	2231002 pt	2231002 pt
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22411	22411
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211 pt	22996 pt	22996 pt
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241103
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211121	2241107	2241107
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211231	2241111	2241111
313111A	22996 pt	22996 pt	313210C10	2211H25	2211H25	3132211241	2241113	2241113
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241114
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211251 pt	2241117 pt	2241115
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211261	2241116	2241116
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2241119	2241119
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299613	2299601 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211371 pt	2299614	2299603 pt
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2241100	2241100
313111W pt	22810	22810	313210E	2221B	2221B	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213	22414	22414
313111YVW pt	2281000	2281000	313210G	2221C	2221C	3132213111	2241401	2241401
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213131	2241405	2241405
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132213YVW	2241400	2241400
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215	22415	22415
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	3132215100	2241500	2241500
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22410	22410
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221W pt	22990 pt	22990 pt
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2241000	2241000
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2299000 pt	2299000 pt
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2241002	2241002
3131123231	2282315	2282315	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220	23970	23970
3131125	22825	22825	313210N pt	22996 pt	22996 pt	3132220000	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397000 pt	2397000 pt
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132220YVW	2397002	2397002
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2299605	2299601 pt	3132301	22971	22971
3131127100 pt	2282911	2282911	313210N121 pt	2299608	2299603 pt	3132301111 pt	2297138 pt	2297131 pt
313112W	22820 pt	22820 pt	313210NYVW pt	2221H00	2221H00	3132301111 pt	2297138 pt	2297135 pt
313112WYVW	2282000 pt	2282000 pt	313210NYVW pt	2299600 pt	2299600 pt	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282002 pt	2282002 pt	313210P	2221J	2221J	3132301121 pt	2297132 pt	2297133 pt
3131130 pt	22840 pt	22840 pt	313210P111	2221J01	2221J01	3132301121 pt	2297132 pt	2297131 pt
3131130 pt	22990 pt	22990 pt	313210P121	2221J03	2221J03	3132301131 pt	2297124 pt	2297123
3131130171	2284081	2284010 pt	313210P131	2221J05	2221J05	3132301131 pt	2297124 pt	2297125
3131130181	2284083	2284023 pt	313210P141 pt	2221J12 pt	2221J07	3132301141 pt	2297134 pt	2297133 pt
3131130191	2284085	2284031 pt	313210P141 pt	2221J12 pt	2221J11	3132301141 pt	2297134 pt	2297135 pt
3131130A1	2284087	2284033 pt	313210P151	2221J13	2221J13	3132301151 pt	2297136 pt	2297133 pt
3131130C1	2284061	2284061	313210P161	2221J15	2221J15	3132301151 pt	2297136 pt	2297135 pt
3131130D1	2299607	2299603 pt	313210P171	2221J19	2221J19	3132301161 pt	2297142 pt	2297131 pt
3131130YVW pt	2284000 pt	2284000 pt	313210P181	2221J23	2221J23	3132301161 pt	2297142 pt	2297135 pt
3131130YVW pt	2299000 pt	2299000 pt	313210P191	2221J25	2221J25	3132301YVW	2297100	2297100
3131130YVW pt	2299600 pt	2299600 pt	313210P1B1	2221J27	2221J27	3132303	22972	22972
3131130YVW pt	2299600 pt	2299600 pt	313210P1D1	2221J29	2221J29	3132303111	2297241	2297241
3131130YVW pt	2284002 pt	2284002 pt	313210P1F1	2221J31	2221J31	3132303121	2297203	2297203
3131130YVW pt	2299002 pt	2299002 pt	313210PYVW	2221J00	2221J00	3132303131	2297205	2297205
3131130YVW pt	2299002 pt	2299002 pt	313210Q	2221K	2221K	3132303141	2297251	2297251
3132101	2211B	2211B	313210Q000	2221K00	2221K00	3132303251	2297298	2297298
3132101100	2211B00	2211B00	313210R	2221M	2221M	3132303YVW	2297200	2297200
3132103	2211C	2211C	313210R111 pt	2221M06 pt	2221M01 pt	3132305	22991	22991
3132103100	2211C00	2211C00	313210R111 pt	2221M06 pt	2221M03 pt	3132305111	2299111	2299111
3132101	2211B	2211B	313210R121 pt	2221M08 pt	2221M01 pt	3132305221	2299135	2299135
313210100	2211B00	2211B00	313210R131 pt	2221M08 pt	2221M03 pt	3132305331	2299147	2299147
3132103	2211C	2211C	313210R131 pt	2221M11 pt	2221M01 pt	3132305YVW	2299100	2299100
3132103100	2211C00	2211C00	313210R141 pt	2221M16 pt	2221M03 pt	313230W pt	22970	22970
3132101	2211B	2211B	313210RYVW	2221M00	2221M00			
313210100	2211B00	2211B00						
3132103	2211C	2211C						
3132103100	2211C00	2211C00						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115241 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115691 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	3133115811 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			3133115811 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
3132495100.....	2258500.....	2258500.....	3133117261 pt.....	2262918 pt.....	2262919.....	3133120YVW pt.....	2257300 pt.....	2257300 pt.....
			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
3132497.....	22589 pt.....	22589 pt.....	3133117381.....	2262927.....	2262927.....	3133120YVW pt.....	2258400 pt.....	2258400 pt.....
3132497111.....	2258913.....	2258913.....	3133117491.....	2262925.....	2262925.....	3133120YVW pt.....	2258900 pt.....	2258900 pt.....
3132497121.....	2258917.....	2258917.....	3133117581.....	2262929.....	2262929.....	3133120YVW pt.....	2269000.....	2269000 pt.....
3132497YVW.....	2258900 pt.....	2258900 pt.....	31331175D1.....	2262931.....	2262931.....			
3132497YVW.....	2258902.....	2258902.....	3133117YVW.....	2262900.....	2262900.....	3133120YVW pt.....	2282000 pt.....	2282000 pt.....
						3133120YVW pt.....	2282200 pt.....	2282200 pt.....
3132499.....	22590 pt.....	22590 pt.....	3133119 pt.....	22316 pt.....	22316 pt.....	3133120YVW pt.....	2282900 pt.....	2282900 pt.....
3132499100.....	2259050.....	2259098 pt.....				3133120YVW pt.....	2284000 pt.....	2284000 pt.....
			3133119 pt.....	22317 pt.....	22317 pt.....	3133120YVW pt.....	2299000 pt.....	2299000 pt.....
313249W pt.....	22580 pt.....	22580 pt.....	3133119100 pt.....	2231621.....	2231600 pt.....	3133120YVW pt.....	2299600 pt.....	2299600 pt.....
			3133119100 pt.....	2231600 pt.....	2231600 pt.....	3133120YVW pt.....	5131000 pt.....	5131000 pt.....
313249W pt.....	22590 pt.....	22590 pt.....	3133119100 pt.....	2231700 pt.....	2231700 pt.....	3133120YVW pt.....	2231002 pt.....	2231002 pt.....
313249WYVW pt.....	2258000 pt.....	2258000 pt.....	3133119100 pt.....	2231791.....	2231791.....	3133120YVW pt.....	2257002 pt.....	2257002 pt.....
313249WYVW pt.....	2259000 pt.....	2259000 pt.....	3133119100 pt.....	2231792.....	2231792.....	3133120YVW pt.....	2258002 pt.....	2258002 pt.....
313249WYVW pt.....	2259002 pt.....	2259002 pt.....	3133119100 pt.....	2231792.....	2231792.....			
313249WYVW pt.....	2259002 pt.....	2259002 pt.....	313311W pt.....	22610.....	22610.....	3133120YVW pt.....	2269002.....	2269002.....
			313311W pt.....	22620.....	22620.....	3133120YVW pt.....	2282002.....	2282002.....
3133111 pt.....	22617.....	22617.....				3133120YVW pt.....	2284002.....	2284002.....
			313311W pt.....	51310.....	51310 pt.....	3133120YVW pt.....	2299002.....	2299002.....
31331111 pt.....	51317.....	51310 pt.....	313311W pt.....	22310 pt.....	22310 pt.....	3133120YVW pt.....	5131002.....	5131000 pt.....
3133111111 pt.....	2261701.....	2261701.....	313311WYVW pt.....	2231000 pt.....	2231000 pt.....	3133201.....	22952.....	22952.....
3133111111 pt.....	5131701.....	5131000 pt.....	313311WYVW pt.....	2261000.....	2261000.....	3133201111.....	2295213.....	2295213.....
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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313221	Narrow fabric mills	243	273	16 331	367 516	13 438	27 733	251 171	766 057	605 166	1 390 642	72 537
224100	Narrow fabric mills	N	270	16 310	367 202	13 421	27 699	250 953	765 589	604 576	1 389 520	72 483
229940	Textile goods, n.e.c. (pt)	N	3	21	314	17	34	218	468	590	1 122	54

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313221, NARROW FABRIC MILLS												
United States	1	273	128	16 331	367 516	13 438	27 733	251 171	766 057	605 166	1 390 642	72 537
California	1	22	6	737	16 019	620	1 324	11 830	41 264	20 772	64 789	6 297
Florida	3	7	3	237	4 158	204	422	3 027	8 401	6 003	16 128	869
Massachusetts	3	18	9	469	10 453	373	768	6 428	21 079	12 020	32 063	892
New Jersey	2	15	7	529	17 543	349	636	6 268	32 344	17 040	49 735	1 953
New York	3	18	1	203	5 433	130	248	2 180	12 129	8 112	21 008	500
North Carolina	1	35	21	2 613	58 065	2 286	4 751	45 420	132 972	141 484	275 174	9 412
Ohio	1	3	1	290	5 670	238	480	3 423	3 936	5 204	8 169	146

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313221, NARROW FABRIC MILLS		313221, NARROW FABRIC MILLS—Con.	
Companies ¹ number..	243	Value added \$1,000..	766 057
All establishments number..	273	Total inventories, beginning of year \$1,000..	242 230
Establishments with 1 to 19 employees number..	145	Finished goods inventories, beginning of year \$1,000..	97 217
Establishments with 20 to 99 employees number..	72	Work-in-process inventories, beginning of year \$1,000..	71 866
Establishments with 100 employees or more number..	56	Materials and supplies inventories, beginning of year \$1,000..	73 147
All employees number..	16 331	Total inventories, end of year \$1,000..	226 002
Total compensation ² \$1,000..	447 901	Finished goods inventories, end of year \$1,000..	90 174
Annual payroll \$1,000..	367 516	Work-in-process inventories, end of year \$1,000..	59 490
Total fringe benefits \$1,000..	80 385	Materials and supplies inventories, end of year \$1,000..	76 338
Production workers, average for year number..	13 438	Gross book value of total assets at beginning of year \$1,000..	612 159
Production workers on March 15 number..	13 398	Total capital expenditures (new and used) \$1,000..	72 537
Production workers on May 15 number..	13 463	Capital expenditures for buildings and other structures (new and used) \$1,000..	12 744
Production workers on August 15 number..	13 463	Capital expenditures for machinery and equipment (new and used) \$1,000..	59 793
Production workers on November 15 number..	13 428	Total retirements ² \$1,000..	10 955
Production-worker hours 1,000..	27 733	Gross book value of total assets at end of year \$1,000..	673 741
Production-worker wages \$1,000..	251 171	Total depreciation during year ² \$1,000..	47 400
Total cost of materials \$1,000..	605 166	Total rental payments ² \$1,000..	12 446
Cost of materials, parts, containers, etc., consumed \$1,000..	544 070	Buildings and other structures rental payments ² \$1,000..	6 261
Cost of resales \$1,000..	21 510	Machinery and equipment rental payments ² \$1,000..	6 185
Cost of fuels \$1,000..	6 864	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	3 934
Cost of purchased electricity \$1,000..	24 010	Response coverage ratio ⁴ percent..	71
Cost of contract work \$1,000..	8 712	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	20 624
Quantity of electricity purchased for heat and power 1,000 kWh..	401 453	Response coverage ratio ⁴ percent..	71
Quantity of electricity generated less sold for heat and power 1,000 kWh..	D	Cost of purchased communications services ³ \$1,000..	5 000
Total value of shipments \$1,000..	1 390 642	Response coverage ratio ⁴ percent..	71
Primary products value of shipments \$1,000..	1 290 120	Cost of purchased legal services ³ \$1,000..	3 060
Secondary products value of shipments \$1,000..	67 844	Response coverage ratio ⁴ percent..	71
Total miscellaneous receipts \$1,000..	32 678	Cost of purchased accounting and bookkeeping services ³ \$1,000..	1 854
Value of resales \$1,000..	24 483	Response coverage ratio ⁴ percent..	71
Contract receipts \$1,000..	D	Cost of purchased advertising services ³ \$1,000..	2 450
Other miscellaneous receipts \$1,000..	D	Response coverage ratio ⁴ percent..	71
Primary products specialization ratio percent..	95	Cost of purchased software and other data processing services ³ \$1,000..	2 829
Value of primary products shipments made in all industries \$1,000..	1 336 169	Response coverage ratio ⁴ percent..	71
Value of primary products shipments made in this industry \$1,000..	1 290 120	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	1 556
Value of primary products shipments made in other industries \$1,000..	46 049	Response coverage ratio ⁴ percent..	71
Coverage ratio percent..	96		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313221, NARROW FABRIC MILLS												
All establishments	1	273	128	16 331	367 516	13 438	27 733	251 171	766 057	605 166	1 390 642	72 537
Establishments with 1 to 4 employees	9	56	—	122	2 378	109	203	1 522	3 840	4 398	9 235	342
Establishments with 5 to 9 employees	7	38	—	255	5 103	211	405	3 434	9 019	7 445	17 764	700
Establishments with 10 to 19 employees	5	51	—	695	15 618	543	1 101	9 580	26 515	27 112	57 332	1 692
Establishments with 20 to 49 employees	2	43	43	1 330	27 201	1 136	2 264	18 441	53 693	40 733	95 153	3 588
Establishments with 50 to 99 employees	1	29	29	2 056	48 111	1 686	3 667	32 886	89 403	56 595	149 735	5 636
Establishments with 100 to 249 employees	1	38	38	5 556	125 302	4 533	9 268	83 727	261 816	222 815	492 758	19 854
Establishments with 250 to 499 employees	—	17	17	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	102	—	707	11 585	599	1 092	8 275	20 023	18 601	42 625	1 961

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313221	Narrow fabric mills	273	16 331	367 516	13 438	27 733	251 171	766 057	605 166	1 390 642	72 537
3132211	Woven narrow fabrics (12 inches or less in width)	110	11 321	261 191	9 156	19 163	174 287	557 068	405 588	980 561	56 830
3132213	Braided narrow fabrics (12 inches or less in width)	30	2 845	62 301	2 382	4 801	42 901	116 738	74 098	187 900	8 370
3132215	Covered rubber thread, made in narrow fabric mills	10	1 058	25 186	973	2 026	21 108	61 349	97 289	157 142	4 315

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313221	Narrow fabrics	N	X	X	1 336 169	N	X	X	N
3132211	Woven narrow fabrics (12 inches or less in width).....	N	X	X	936 445	N	X	X	N
31322111	Woven elastic narrow fabrics (12 inches or less in width)	N	X	X	187 968	N	X	X	N
3132211111	Woven elastic narrow fabrics for underwear, corsets, and other apparel	14	X	956.7	170 038	N	X	N	N
3132211121	Woven elastic narrow fabrics for uses other than underwear, corsets, and apparel	8	X	S	17 930	13	X	P110.5	25 464
31322112	Woven nonelastic labels, ribbons, and tape	N	X	X	420 789	N	X	X	N
3132211231	Woven nonelastic labels	21	X	6 306.3	197 153	18	X	Q5 406.7	141 983
3132211241	Woven nonelastic ribbons, woven edge	16	X	S	121 283	14	X	Q1 308.2	117 831
3132211251	Woven nonelastic apparel tape, including zipper	9	X	143.0	13 209	N	X	N	N
3132211261	Woven nonelastic tape, except apparel and zipper	19	X	Q991.4	89 144	10	X	D	D
31322113	Woven nonelastic narrow fabrics and webbing, excluding labels, woven edge ribbons, and tape	N	X	X	295 443	N	X	X	N
3132211371	Woven nonelastic narrow fabrics and webbing, excluding labels, woven edge ribbons, and tape	56	X	P2 395.4	295 443	N	X	N	N
3132211Y	Woven narrow fabrics (12 inches or less in width), nsk	N	X	X	32 245	N	X	X	N
3132211YWV	Woven narrow fabrics (12 inches or less in width), nsk	N	X	X	32 245	N	X	X	N
3132213	Braided narrow fabrics (12 inches or less in width).....	N	X	X	181 208	N	X	X	205 451
31322131	Braided narrow fabrics (12 inches or less in width)	N	X	X	181 208	N	X	X	N
3132213111	Braided narrow fabrics (12 inches or less in width), elastic (flat, round, and tubular)	12	X	576.0	40 709	16	X	644.7	47 102
3132213121	Braided nonelastic shoe and corset laces	8	X	260.0	16 015	8	X	P479.9	35 010
3132213131	Braided nonelastic narrow fabrics, except shoe and corset laces	25	X	35.2	124 484	20	X	Q29.5	109 816
3132213Y	Braided narrow fabrics (12 inches or less in width), nsk	N	X	X	-	N	X	X	N
3132213YWV	Braided narrow fabrics (12 inches or less in width), nsk	N	X	X	-	N	X	X	13 523
3132215	Covered rubber thread, made in narrow fabric mills	N	X	X	157 853	N	X	X	152 445
31322151	Covered rubber thread, made in narrow fabric mills	N	X	X	157 853	N	X	X	N
3132215100	Covered rubber thread, made in narrow fabric mills	12	X	28.1	157 853	14	X	P23.3	152 445
313221W	Narrow fabric mills, nsk, total	N	X	X	60 663	N	X	X	N
313221WY	Narrow fabric mills, nsk, total	N	X	X	60 663	N	X	X	N
313221WYWV	Narrow fabric mills, nsk, for nonadministrative-record establishments	N	X	X	19 656	N	X	X	N
313221WYWY	Narrow fabric mills, nsk, for administrative-record establishments	N	X	X	41 007	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3132211	WOVEN NARROW FABRICS (12 INCHES OR LESS IN WIDTH)		
	United States	936 445	N
	Alabama	87 273	N
	California	54 381	N
	Florida	14 915	N
	Georgia	16 620	N
	Massachusetts	16 961	N
	New Hampshire	48 278	N
	New Jersey	40 494	N
	New York	9 413	N
	North Carolina	111 502	N
	Pennsylvania	116 871	N
	Rhode Island	71 582	N
	South Carolina	141 057	N
	Tennessee	28 352	N
	Virginia	33 893	N
3132213	BRAIDED NARROW FABRICS (12 INCHES OR LESS IN WIDTH)		
	United States	181 208	205 451
	Massachusetts	15 746	11 017
	North Carolina	18 162	23 494
	Rhode Island	36 099	42 793
3132215	COVERED RUBBER THREAD, MADE IN NARROW FABRIC MILLS		
	United States	157 853	152 445
	North Carolina	144 126	139 838

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313221	NARROW FABRIC MILLS				
31311103	Cotton yarns	X	43 243	X	N
32522221	Polyester filament yarns	X	97 174	X	N
32522211	Nylon filament yarns	X	124 779	X	N
32522213	Filament rayon, acetate, and Lyocell yarns	X	16 746	X	N
31311001	All other yarns	X	72 118	X	N
32629907	Bare rubber thread	X	37 878	X	N
31311113	Spun polyester yarns	X	24 461	X	N
11192001	Raw cotton fibers	D	D	N	N
32522105	Rayon and acetate staple and tow	D	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	83 769	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	42 375	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313221 NARROW FABRIC MILLS

This U.S. industry comprises establishments primarily engaged in (1) weaving or braiding narrow fabrics in their final form or initially made in wider widths that are specially constructed for narrower widths and/or (2) making fabric-covered elastic yarn and thread. Establishments in

this industry may weave only; weave and finish; or weave, finish, and further fabricate fabric products.

The data published with NAICS code 313221 include the following SIC industries:

- 2241 Narrow fabric mills
- 2299 Textile goods, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221H12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282000 pt	2282000 pt	313210N141 pt	2221J12 pt	2221J11	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N151	2221J13	2221J13	3132301131 pt	2297124 pt	2297121
3131130 pt	22840 pt	22840 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297123
3131130 pt	22990 pt	22990 pt	313210N171	2221J19	2221J19	3132301131 pt	2297124 pt	2297125
3131130111	22996 pt	22996 pt	313210N181	2221J23	2221J23	3132301141 pt	2297134 pt	2297131 pt
3131130111	2284010	2284010 pt	313210N191	2221J25	2221J25	3132301141 pt	2297134 pt	2297133 pt
3131130121	2284023	2284023 pt	313210N1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297131 pt
3131130131 pt	2284045 pt	2284041	313210N1D1	2221J29	2221J29	3132301151 pt	2297136 pt	2297133 pt
3131130131 pt	2284045 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297135 pt
3131130141 pt	2284047 pt	2284043 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297133 pt
3131130141 pt	2284047 pt	2284051 pt	313210PYVW	2221J00	2221J00	3132301YVW	2297100	2297100
3131130151 pt	2284035 pt	2284031 pt	313210Q	2221K	2221K	3132303	22972	22972
3131130151 pt	2284035 pt	2284051 pt	313210Q000	2221K00	2221K00	3132303111	2297241	2297241
3131130161 pt	2284037 pt	2284033 pt	313210R	2221M	2221M	3132303121	2297203	2297203
3131130161 pt	2284037 pt	2284051 pt	313210R111 pt	2221M06 pt	2221M01 pt	3132303131	2297205	2297205
3131130171	2284081	2284010 pt	313210R111 pt	2221M06 pt	2221M03 pt	3132303141	2297251	2297251
3131130181	2284083	2284023 pt	313210R121 pt	2221M08 pt	2221M01 pt	3132303251	2297298	2297298
3131130191	2284085	2284031 pt	313210R121 pt	2221M08 pt	2221M03 pt	3132303YVW	2297200	2297200
31311301A1	2284087	2284033 pt	313210R131 pt	2221M11 pt	2221M01 pt	3132305	22991	22991
31311301C1	2284061	2284061	313210R131 pt	2221M11 pt	2221M03 pt	3132305111	2299111	2299111
31311301D1	2299607	2299603 pt	313210R141 pt	2221M16 pt	2221M01 pt	3132305221	2299135	2299135
3131130YVW pt	2284000 pt	2284000 pt	313210R141 pt	2221M16 pt	2221M03 pt	3132305331	2299147	2299147
3131130YVW pt	2299000 pt	2299000 pt	313210RYVW	2221M00	2221M00	3132305YVW	2299100	2299100
3131130YVW pt	2299600 pt	2299600 pt	313210T	22312	22312	313230W pt	22970	22970
3131130YVW pt	2284002 pt	2284002 pt	313210T100	2231200	2231200	3132101	2211B	2211B
3131130YVW pt	2299002 pt	2299002 pt	313210100	2211B00	2211B00	3132101100	2211B00	2211B00
3132101	2211B	2211B	313210100	2211C	2211C	313210100	2211C	2211C
3132101100	2211B00	2211B00	313210100 pt	2231611	2231611	313210100 pt	2231611	2231611
3132103	2211C	2211C	313210100 pt	2231600 pt	2231600 pt	313210100 pt	2231600 pt	2231600 pt
3132103100	2211C00	2211C00	313210100 pt	2231600 pt	2231600 pt	313210100 pt	2231600 pt	2231600 pt

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115351 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115691 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	313311581 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			313311581 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912 pt.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918 pt.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
3132495100.....	2258500.....	2258500.....	3133117261 pt.....	2262918 pt.....	2262919.....	3133120YVW pt.....	2257300 pt.....	2257300 pt.....
			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
3132497.....	22589 pt.....	22589 pt.....	3133117381.....	2262927.....	2262927.....	3133120YVW pt.....	2258400 pt.....	2258400 pt.....
3132497111.....	2258913.....	2258913.....	3133117491.....	2262925.....	2262925.....	3133120YVW pt.....	2258900 pt.....	2258900 pt.....
3132497121.....	2258917.....	2258917.....	31331175B1.....	2262929.....	2262929.....	3133120YVW pt.....	2269000.....	2269000 pt.....
3132497YVW.....	2258900 pt.....	2258900 pt.....	31331175D1.....	2262931.....	2262931.....			
3132497YVW.....	2258902.....	2258902.....	3133117YVW.....	2262900.....	2262900.....	3133120YVW pt.....	2282000 pt.....	2282000 pt.....
						3133120YVW pt.....	2282200 pt.....	2282200 pt.....
3132499.....	22590 pt.....	22590 pt.....	3133119 pt.....	22316 pt.....	22316 pt.....	3133120YVW pt.....	2282900 pt.....	2282900 pt.....
3132499100.....	2259050.....	2259050.....				3133120YVW pt.....	2284000 pt.....	2284000 pt.....
			3133119 pt.....	22317 pt.....	22317 pt.....	3133120YVW pt.....	2299000 pt.....	2299000 pt.....
313249W pt.....	22580 pt.....	22580 pt.....	3133119100 pt.....	2231621.....	2231600 pt.....	3133120YVW pt.....	2299600 pt.....	2299600 pt.....
			3133119100 pt.....	2231600 pt.....	2231600 pt.....	3133120YVW pt.....	5131000 pt.....	5131000 pt.....
313249W pt.....	22590 pt.....	22590 pt.....	3133119100 pt.....	2231700 pt.....	2231700 pt.....	3133120YVW pt.....	2231002 pt.....	2231002 pt.....
313249WYVW pt.....	2258000 pt.....	2258000 pt.....	3133119100 pt.....	2231791.....	2231791.....	3133120YVW pt.....	2257002 pt.....	2257002 pt.....
313249WYVW pt.....	2259000 pt.....	2259000 pt.....	3133119100 pt.....	2231792.....	2231792.....	3133120YVW pt.....	2258002 pt.....	2258002 pt.....
313249WYVW pt.....	2259002 pt.....	2259002 pt.....	3133119100 pt.....	2231792.....	2231792.....			
313249WYVW pt.....	2259002 pt.....	2259002 pt.....	313311W pt.....	22610.....	22610.....	3133120YVW pt.....	2269002.....	2269002.....
			313311W pt.....	22620.....	22620.....	3133120YVW pt.....	2282002.....	2282002.....
3133111 pt.....	22617.....	22617.....				3133120YVW pt.....	2284002.....	2284002.....
			313311W pt.....	51310.....	51310 pt.....	3133120YVW pt.....	2299002.....	2299002.....
31331111 pt.....	51317.....	51310 pt.....	313311W pt.....	22310 pt.....	22310 pt.....	3133120YVW pt.....	5131002.....	5131000 pt.....
3133111111 pt.....	2261701.....	2261701.....	313311WYVW pt.....	2231000 pt.....	2231000 pt.....	3133201.....	22952.....	22952.....
3133111111 pt.....	5131701.....	5131000 pt.....	313311WYVW pt.....	2261000.....	2261000.....	3133201111.....	2295213.....	2295213.....
3133111121 pt.....	2261703.....	2261703.....	313311WYVW pt.....	2262000.....	2262000.....	3133201121.....	2295215.....	2295215.....
3133111121 pt.....	5131703.....	5131000 pt.....	313311WYVW pt.....	5131000 pt.....	5131000 pt.....	3133201131.....	2295217.....	2295217.....
3133111131 pt.....	2261705.....	2261705.....	313311WYVW pt.....	2231002 pt.....	2231002 pt.....	3133201241.....	2295222.....	2295222.....
3133111131 pt.....	5131705.....	5131000 pt.....	313311WYVW pt.....	2261002.....	2261002.....	3133201251.....	2295224.....	2295224.....
3133111141 pt.....	2261707.....	2261707.....	313311WYVW pt.....	2262002.....	2262002.....	3133201261.....	2295226.....	2295226.....
3133111141 pt.....	5131707.....	5131000 pt.....	313311WYVW pt.....	5131002 pt.....	5131000 pt.....	3133201371.....	2295232.....	2295232.....
3133111151 pt.....	2261710.....	2261709.....	3133120 pt.....	22310.....	22310 pt.....	3133201381.....	2295234.....	2295234.....
3133111151 pt.....	2261710 pt.....	2261711.....	3133120 pt.....	22311.....	22311.....	3133201391.....	2295236.....	2295236.....
						3133201YVW.....	2295200.....	2295200.....
3133111151 pt.....	5131710.....	5131000 pt.....	3133120 pt.....	22317 pt.....	22317 pt.....	3133203.....	3069D pt.....	3069D pt.....
3133111161 pt.....	2261713.....	2261713.....	3133120 pt.....	22570 pt.....	22570 pt.....	3133203111.....	3069D15.....	3069D15.....
3133111161 pt.....	5131713.....	5131000 pt.....	3133120 pt.....	22573 pt.....	22573 pt.....	3133203121.....	3069D18.....	3069D18.....
3133111171 pt.....	2261718 pt.....	2261715.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203131.....	3069D20.....	3069D20.....
3133111171 pt.....	2261718 pt.....	2261719.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203YVW.....	3069D00 pt.....	3069D00 pt.....
3133111171 pt.....	5131718.....	5131000 pt.....	3133120 pt.....	22580 pt.....	22580 pt.....			
3133111181 pt.....	2261723.....	2261723.....	3133120 pt.....	22584 pt.....	22584 pt.....	3133205.....	22953.....	22953.....
3133111181 pt.....	5131723.....	5131000 pt.....	3133120 pt.....	22589 pt.....	22589 pt.....	313320511.....	2295311.....	2295311.....
3133111YVW pt.....	2261700.....	2261700.....	3133120 pt.....	22690.....	22690.....	3133205121.....	2295315.....	2295315.....
3133111YVW pt.....	5131700.....	5131000 pt.....	3133120 pt.....	22820 pt.....	22820 pt.....	3133205231 pt.....	2295319.....	2295317 pt.....
			3133120 pt.....	22822 pt.....	22822 pt.....	3133205231 pt.....	2295319.....	2295338 pt.....
3133113.....	22619.....	22619.....	3133120 pt.....	22829 pt.....	22829 pt.....	3133205241 pt.....	2295358.....	2295348 pt.....
3133113111.....	2261901.....	2261901.....	3133120 pt.....	22840 pt.....	22840 pt.....	3133205241 pt.....	2295358.....	2295338 pt.....
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3133113241.....	2261907.....	2261907.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205261.....	2295323.....	2295338 pt.....
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3133113261.....	2261911.....	2261911.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205481.....	2295391.....	2295398.....
3133113371.....	2261913.....	2261913.....	3133120 pt.....	22996 pt.....	22996 pt.....	3133205YVW.....	2295300.....	2295300.....
3133113481.....	2261915.....	2261915.....	3133120 pt.....	22996 pt.....	22996 pt.....			
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Schiffli Machine Embroidery

1997

Issued August 1999

EC97M-3132C

1997 Economic Census

Manufacturing

Industry Series



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Industry Series



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313222	Schiffli machine embroidery ...	233	235	4 325	83 519	3 674	7 428	59 242	176 739	82 544	261 591	5 788
239700	Schiffli machine embroideries ..	N	235	4 325	83 519	3 674	7 428	59 242	176 739	82 544	261 591	5 788

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313222, SCHIFFLI MACHINE EMBROIDERY												
United States	2	235	38	4 325	83 519	3 674	7 428	59 242	176 739	82 544	261 591	5 788
California	1	29	7	767	13 610	685	1 426	10 078	26 083	10 693	37 006	732
Florida	3	7	2	176	2 702	165	297	2 175	5 132	2 843	8 169	477
New Jersey	1	108	11	1 050	22 331	794	1 595	15 069	54 913	27 479	82 894	1 476
New York	-	13	3	224	4 976	184	368	2 904	9 404	4 732	14 527	417
North Carolina	-	5	3	299	6 322	250	567	4 299	10 166	3 085	13 443	66

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313222, SCHIFFLI MACHINE EMBROIDERY		313222, SCHIFFLI MACHINE EMBROIDERY—Con.	
Companies ¹ number..	233	Value added \$1,000..	176 739
All establishments number..	235	Total inventories, beginning of year \$1,000..	34 204
Establishments with 1 to 19 employees number..	197	Finished goods inventories, beginning of year \$1,000..	13 621
Establishments with 20 to 99 employees number..	28	Work-in-process inventories, beginning of year \$1,000..	7 908
Establishments with 100 employees or more number..	10	Materials and supplies inventories, beginning of year \$1,000..	12 675
All employees number..	4 325	Total inventories, end of year \$1,000..	28 577
Total compensation ² \$1,000..	97 560	Finished goods inventories, end of year \$1,000..	12 646
Annual payroll \$1,000..	83 519	Work-in-process inventories, end of year \$1,000..	6 575
Total fringe benefits \$1,000..	14 041	Materials and supplies inventories, end of year \$1,000..	9 356
Production workers, average for year number..	3 674	Gross book value of total assets at beginning of year \$1,000..	54 169
Production workers on March 15 number..	3 580	Total capital expenditures (new and used) \$1,000..	5 788
Production workers on May 15 number..	3 739	Capital expenditures for buildings and other structures (new and used) \$1,000..	930
Production workers on August 15 number..	3 710	Capital expenditures for machinery and equipment (new and used) \$1,000..	4 858
Production workers on November 15 number..	3 667	Total retirements ² \$1,000..	3 140
Production-worker hours 1,000..	7 428	Gross book value of total assets at end of year \$1,000..	56 817
Production-worker wages \$1,000..	59 242	Total depreciation during year ² \$1,000..	4 283
Total cost of materials \$1,000..	82 544	Total rental payments ² \$1,000..	6 328
Cost of materials, parts, containers, etc., consumed \$1,000..	62 407	Buildings and other structures rental payments ² \$1,000..	3 279
Cost of resales \$1,000..	D	Machinery and equipment rental payments ² \$1,000..	3 049
Cost of fuels \$1,000..	984	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	130
Cost of purchased electricity \$1,000..	2 514	Response coverage ratio ⁴ percent..	71
Cost of contract work \$1,000..	D	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	1 201
Quantity of electricity purchased for heat and power 1,000 kWh..	35 613	Response coverage ratio ⁴ percent..	71
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Cost of purchased communications services ³ \$1,000..	1 036
Total value of shipments \$1,000..	261 591	Response coverage ratio ⁴ percent..	71
Primary products value of shipments \$1,000..	210 711	Cost of purchased legal services ³ \$1,000..	625
Secondary products value of shipments \$1,000..	16 647	Response coverage ratio ⁴ percent..	71
Total miscellaneous receipts \$1,000..	34 233	Cost of purchased accounting and bookkeeping services ³ \$1,000..	509
Value of resales \$1,000..	D	Response coverage ratio ⁴ percent..	71
Contract receipts \$1,000..	26 111	Cost of purchased advertising services ³ \$1,000..	1 178
Other miscellaneous receipts \$1,000..	D	Response coverage ratio ⁴ percent..	71
Primary products specialization ratio percent..	92	Cost of purchased software and other data processing services ³ \$1,000..	430
Value of primary products shipments made in all industries \$1,000..	217 209	Response coverage ratio ⁴ percent..	71
Value of primary products shipments made in this industry \$1,000..	210 711	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	263
Value of primary products shipments made in other industries \$1,000..	6 498	Response coverage ratio ⁴ percent..	71
Coverage ratio percent..	97		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313222. SCHIFFLI MACHINE EMBROIDERY												
All establishments	2	235	38	4 325	83 519	3 674	7 428	59 242	176 739	82 544	261 591	5 788
Establishments with 1 to 4 employees	9	100	—	206	3 292	197	338	2 490	4 953	3 413	8 966	739
Establishments with 5 to 9 employees	4	62	—	379	6 877	317	575	4 891	15 344	7 603	23 843	911
Establishments with 10 to 19 employees	2	35	—	472	8 315	392	737	6 032	15 774	7 886	24 222	924
Establishments with 20 to 49 employees	1	16	16	439	8 874	335	692	5 617	17 306	9 259	27 346	699
Establishments with 50 to 99 employees	—	12	12	830	17 354	639	1 313	11 745	40 297	22 767	62 509	899
Establishments with 100 to 249 employees	2	8	8	D	D	D	D	D	D	D	D	D
Establishments with 250 to 499 employees	5	2	2	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	115	—	389	5 541	359	590	4 164	8 553	5 839	15 381	1 201

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313222	Schiffli machine embroidery	235	4 325	83 519	3 674	7 428	59 242	176 739	82 544	261 591	5 788

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313222	Schiffli machine embroideries	N	X	X	217 209	N	X	X	253 719
3132220	Schiffli machine embroideries	N	X	X	217 209	N	X	X	253 719
31322200	Schiffli machine embroideries	N	X	X	200 598	N	X	X	N
3132220000	Schiffli machine embroideries	112	X	X	200 598	N	X	X	N
3132220Y	Schiffli machine embroideries, nsk.	N	X	X	16 611	N	X	X	N
3132220YWW	Schiffli machine embroideries, nsk, for nonadministrative-record establishments	N	X	X	-	N	X	X	N
3132220YWY	Schiffli machine embroideries, nsk., for administrative-record establishments	N	X	X	16 611	N	X	X	7 606

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313222	SCHIFFLI MACHINE EMBROIDERY				
31321013	Polyester broadwoven fabrics (piece goods)mil sq yd..	3.4	7 647	N	N
31321003	Cotton broadwoven fabrics (piece goods)mil sq yd..	S	7 392	N	N
31321009	Rayon and acetate broadwoven fabrics (piece goods)mil sq yd..	D	D	N	N
31321021	Other broadwoven fabrics (piece goods)mil sq yd..	S	4 589	N	N
31322103	Narrow fabrics (12 inches or less in width)mil sq yd..	S	2 792	N	N
31311003	Yarn, all fibers	S	8 667	N	N
31332001	Plastics coated, impregnated, or laminated fabricsmil sq yd..	S	1 101	N	N
31500000	Garments purchased to be printed and resold	X	9 263	N	N
32591011	Printing ink, for printing on garments	X	D	N	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	1 335	N	N
00970099	All other materials and components, parts, containers, and supplies	X	5 893	N	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	13 483	N	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313222 SCHIFFLI MACHINE EMBROIDERY

This U.S. industry comprises establishments primarily engaged in manufacturing Schiffli machine embroideries.

The data published with NAICS code 313222 include the following SIC industry:

2397 Schiffli machine embroideries

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221J03	2221J03	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221J05	2221J05	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210N121 pt	2221J12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N121 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297121
3131130 pt	22840 pt	22840 pt	313210N151	2221J13	2221J13	3132301131 pt	2297124 pt	2297123
3131130 pt	22990 pt	22990 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297125
3131130 pt	22996 pt	22996 pt	313210N171	2221J19	2221J19	3132301141 pt	2297134 pt	2297133 pt
3131130111	2284010	2284010 pt	313210N181	2221J23	2221J23	3132301141 pt	2297134 pt	2297135 pt
3131130121	2284023	2284023 pt	313210N191	2221J25	2221J25	3132301151 pt	2297136 pt	2297131 pt
3131130131 pt	2284045 pt	2284041	313210N1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297133 pt
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Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313230	Nonwoven fabric mills	211	251	21 014	689 402	15 742	32 978	425 912	1 744 447	2 636 017	4 349 721	300 325
229700	Nonwoven fabrics	N	193	17 047	561 470	12 700	26 905	352 747	1 496 084	2 291 797	3 759 985	271 908
229950	Textile goods, n.e.c. (pt)	N	58	3 967	127 932	3 042	6 073	73 165	248 363	344 220	589 736	28 417

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
313230, NONWOVEN FABRIC MILLS												
United States	-	251	157	21 014	689 402	15 742	32 978	425 912	1 744 447	2 636 017	4 349 721	300 325
California	6	7	2	121	1 833	97	174	1 293	5 150	6 728	11 850	731
Florida	-	5	2	152	5 660	93	189	2 120	12 285	18 948	31 265	1 316
Georgia	1	20	10	1 341	41 961	1 045	2 269	27 536	94 490	241 715	334 069	24 092
Maine	-	5	4	584	14 348	484	1 159	10 451	29 883	77 320	106 409	832
Massachusetts	3	13	10	923	30 235	654	1 505	16 556	57 704	81 544	138 914	7 055
New Jersey	-	8	4	337	11 155	221	511	5 658	18 983	59 956	79 126	2 760
New York	1	33	15	1 290	39 506	973	1 654	18 477	72 151	102 697	176 670	11 819
North Carolina	-	32	25	4 056	132 952	3 015	6 563	83 132	344 513	480 571	812 704	87 902
Ohio	-	8	8	684	19 631	568	1 273	15 403	48 951	52 109	100 758	3 469
Pennsylvania	-	13	9	1 608	40 821	1 301	2 559	29 043	101 685	107 220	210 142	6 520
Rhode Island	-	4	3	414	13 435	215	433	4 729	18 437	72 023	89 846	4 805
South Carolina	-	22	20	2 946	91 066	2 183	4 345	56 945	231 046	335 231	563 396	17 482
Texas	7	4	3	248	5 361	203	353	3 827	15 031	18 375	33 357	1 900
Wisconsin	-	11	7	827	32 459	603	1 329	19 581	54 654	124 618	175 195	22 290

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313230, NONWOVEN FABRIC MILLS		313230, NONWOVEN FABRIC MILLS—Con.	
Companies ¹	number.. 211	Value added	\$1,000.. 1 744 447
All establishments	number.. 251	Total inventories, beginning of year	\$1,000.. 568 276
Establishments with 1 to 19 employees	number.. 94	Finished goods inventories, beginning of year	\$1,000.. 291 595
Establishments with 20 to 99 employees	number.. 95	Work-in-process inventories, beginning of year	\$1,000.. 100 728
Establishments with 100 employees or more	number.. 62	Materials and supplies inventories, beginning of year	\$1,000.. 175 953
All employees	number.. 21 014	Total inventories, end of year	\$1,000.. 596 244
Total compensation ²	\$1,000.. 880 102	Finished goods inventories, end of year	\$1,000.. 309 471
Annual payroll	\$1,000.. 689 402	Work-in-process inventories, end of year	\$1,000.. 113 595
Total fringe benefits	\$1,000.. 190 700	Materials and supplies inventories, end of year	\$1,000.. 173 178
Production workers, average for year	number.. 15 742	Gross book value of total assets at beginning of year	\$1,000.. 3 089 647
Production workers on March 12	number.. 15 845	Total capital expenditures (new and used)	\$1,000.. 300 325
Production workers on May 12	number.. 15 533	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 23 988
Production workers on August 12	number.. 15 812	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 276 337
Production workers on November 12	number.. 15 774	Total retirements ²	\$1,000.. 71 596
Production-worker hours	1,000.. 32 978	Gross book value of total assets at end of year	\$1,000.. 3 318 376
Production-worker wages	\$1,000.. 425 912	Total depreciation during year ²	\$1,000.. 185 729
Total cost of materials	\$1,000.. 2 636 017	Total rental payments ²	\$1,000.. 43 807
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 417 509	Buildings and other structures rental payments ²	\$1,000.. 29 227
Cost of resales	\$1,000.. 39 515	Machinery and equipment rental payments ²	\$1,000.. 14 580
Cost of fuels	\$1,000.. 33 301	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 9 201
Cost of purchased electricity	\$1,000.. 81 765	Response coverage ratio ⁴	percent.. 76
Cost of contract work	\$1,000.. 63 927	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 74 967
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 566 832	Response coverage ratio ⁴	percent.. 76
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Cost of purchased communications services ³	\$1,000.. 6 536
Total value of shipments	\$1,000.. 4 349 721	Response coverage ratio ⁴	percent.. 76
Primary products value of shipments	\$1,000.. 3 811 418	Cost of purchased legal services ³	\$1,000.. 3 190
Secondary products value of shipments	\$1,000.. 411 680	Response coverage ratio ⁴	percent.. 76
Total miscellaneous receipts	\$1,000.. 126 623	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 372
Value of resales	\$1,000.. 43 193	Response coverage ratio ⁴	percent.. 76
Contract receipts	\$1,000.. 18 425	Cost of purchased advertising services ³	\$1,000.. 5 666
Other miscellaneous receipts	\$1,000.. 65 005	Response coverage ratio ⁴	percent.. 76
Primary products specialization ratio	percent.. 90	Cost of purchased software and other data processing services ³	\$1,000.. 4 936
Value of primary products shipments made in all industries	\$1,000.. 4 222 598	Response coverage ratio ⁴	percent.. 76
Value of primary products shipments made in this industry	\$1,000.. 3 811 418	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 9 134
Value of primary products shipments made in other industries	\$1,000.. 411 180	Response coverage ratio ⁴	percent.. 76
Coverage ratio	percent.. 90		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313230, NONWOVEN FABRIC MILLS												
All establishments	-	251	157	21 014	689 402	15 742	32 978	425 912	1 744 447	2 636 017	4 349 721	300 325
Establishments with 1 to 4 employees	9	33	-	69	1 367	57	91	962	3 768	5 001	8 766	518
Establishments with 5 to 9 employees	5	31	-	194	5 215	159	284	3 554	13 909	23 961	38 352	2 262
Establishments with 10 to 19 employees	4	30	-	414	10 183	308	577	6 396	25 192	39 941	65 147	3 239
Establishments with 20 to 49 employees	1	53	53	1 713	42 231	1 273	2 394	25 886	106 994	192 178	299 162	11 913
Establishments with 50 to 99 employees	-	42	42	2 776	79 953	2 204	4 433	50 210	183 917	293 649	471 547	26 540
Establishments with 100 to 249 employees	-	42	42	6 504	204 312	4 931	10 688	126 663	444 901	854 313	1 288 096	129 485
Establishments with 250 to 499 employees	-	12	12	4 134	150 909	3 158	6 440	93 423	368 401	602 507	966 606	62 936
Establishments with 500 to 999 employees	-	8	8	5 210	195 232	3 652	8 071	118 818	597 365	624 467	1 212 045	63 432
Establishments with 1,000 to 2,499 employees	-	-	-	-	-	-	-	-	-	-	-	-
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	5	61	-	553	11 962	446	762	8 371	32 680	46 633	79 285	4 942

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313230	Nonwoven fabric mills	251	21 014	689 402	15 742	32 978	425 912	1 744 447	2 636 017	4 349 721	300 325
3132301	Nonwoven fabrics	83	11 097	410 383	7 970	17 428	254 573	1 103 503	1 741 661	2 822 285	226 963
3132303	Fabricated nonwoven products	50	5 225	136 019	4 140	8 451	87 875	353 546	493 155	841 666	41 203
3132305	Pressed, punched, or needled felts, except hats	38	3 853	125 897	2 946	5 917	71 650	243 654	339 041	579 848	27 939

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313230	Nonwoven fabrics	N	X	X	4 222 598	N	X	X	N
3132301	Nonwoven fabrics	N	X	X	2 783 685	N	X	X	2 510 320
31323011	Nonwoven fabrics	N	X	X	2 739 578	N	X	X	N
3132301111	Nonwoven fabrics, carded mil sq yd.	28	X	³3 550.0	724 746	N	X	X	N
3132301121	Nonwoven fabrics, air laid mil sq yd.	9	X	3 307.1	105 263	N	X	X	N
3132301131	Nonwoven fabrics, wet laid mil sq yd.	16	X	S	511 930	N	X	X	N
3132301141	Nonwoven fabrics, spunbonded mil sq yd.	20	X	S	751 889	N	X	X	N
3132301151	Nonwoven fabrics, melt blown mil sq yd.	8	X	1 757.0	140 513	N	X	X	N
3132301161	Other nonwoven fabrics mil sq yd.	23	X	2 093.7	505 237	N	X	X	N
3132301Y	Nonwoven fabrics, nsk	N	X	X	44 107	N	X	X	N
3132301YVW	Nonwoven fabrics, nsk	N	X	X	44 107	N	X	X	103 899
3132303	Fabricated nonwoven products	N	X	X	838 357	N	X	X	901 236
31323031	Blankets, ribbons, and wipers made from nonwoven fabrics	N	X	X	376 335	N	X	X	N
3132303111	Blankets made from nonwoven fabrics 1,000 doz.	6	X	⁹529.8	135 847	7	X	⁹558.5	111 509
3132303121	Ribbons, for gift tyings, Christmas, made from nonwoven fabrics mil lin yd.	4	X	D	D	7	X	S	46 322
3132303131	Ribbons, for gift tyings (except Christmas) made from nonwoven fabrics mil lin yd.	8	X	⁸83.4	90 117	9	X	60.0	99 181
3132303141	Wipers made from nonwoven fabrics, including windshield, industrial, and lithographic 1,000 doz.	16	X	D	D	20	X	⁸213.8	116 483
31323032	Fabricated nonwoven products, all other, excluding diapers and orthopedic, prosthetic, and surgical supplies	N	X	X	457 480	N	X	X	N
3132303251	Fabricated nonwoven products, all other, excluding diapers and orthopedic, prosthetic, and surgical supplies	27	X	X	457 480	29	X	S	521 898
3132303Y	Fabricated nonwoven products, nsk	N	X	X	4 542	N	X	X	N
3132303YVW	Fabricated nonwoven products, nsk	N	X	X	4 542	N	X	X	5 843
3132305	Pressed, punched, or needled felts (except hats)	N	X	X	520 608	N	X	X	644 955
31323051	Pressed felts (except hats)	N	X	X	101 209	N	X	X	N
3132305111	Pressed felts (except hats) mil lb.	14	X	⁹2.9	101 209	14	X	⁸7.1	148 004
31323052	Punched or needled felts, including stitch bonded, hair and-or jute felts, including carpet and rug linings and cushions (except hats)	N	X	X	27 468	N	X	X	N
3132305221	Punched or needled felts, including stitch bonded, hair and-or jute felts, including carpet and rug linings and cushions (except hats) mil sq yd.	7	X	S	27 468	10	X	⁹20.8	93 576
31323053	Punched or needled felts, including stitch bonded, wool felts and manmade fiber felts, excluding carpet and rug suitable for outdoor use (indoor-outdoor) (except hats)	N	X	X	385 361	N	X	X	N
3132305331	Punched or needled felts, including stitch bonded, wool felts and manmade fiber felts, excluding carpet and rug suitable for outdoor use (indoor-outdoor) (except hats) mil lb.	30	X	S	385 361	34	X	⁸301.8	400 993
3132305Y	Pressed, punched, or needled felts (except hats) nsk	N	X	X	6 570	N	X	X	N
3132305YVW	Pressed, punched, or needled felts (except hats) nsk	N	X	X	6 570	N	X	X	2 382
313230W	Nonwoven fabrics, nsk, total	N	X	X	79 948	N	X	X	N
313230WY	Nonwoven fabrics, nsk	N	X	X	79 948	N	X	X	N
313230WYVW	Nonwoven fabrics, nsk, for nonadministrative-record establishments	N	X	X	40 913	N	X	X	N
313230WYVWY	Nonwoven fabrics, nsk, for administrative-record establishments	N	X	X	39 035	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^⁸ 10 to 19 percent estimated; ^⁹ 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3132301	NONWOVEN FABRICS		
	United States	2 783 685	2 510 320
	Alabama	16 134	N
	California	11 719	N
	Connecticut	91 875	N
	Georgia	289 311	142 884
	Massachusetts	58 507	N
	New York	56 869	50 020
	North Carolina	635 202	371 828
	Rhode Island	72 827	N
	South Carolina	432 839	334 746
	Tennessee	337 157	406 941
	Virginia	103 193	N
	Wisconsin	131 950	91 842
3132303	FABRICATED NONWOVEN PRODUCTS		
	United States	838 357	901 236
	Massachusetts	45 081	N
	New Jersey	26 087	N
	New York	73 701	48 186
	North Carolina	84 208	132 625
	Pennsylvania	125 146	N
	South Carolina	53 625	N
3132305	PRESSED, PUNCHED, OR NEEDLED FELTS (EXCEPT HATS)		
	United States	520 608	644 955
	Georgia	34 373	52 400
	Massachusetts	46 061	93 217
	North Carolina	43 582	33 523
	Pennsylvania	7 185	N
	South Carolina	139 653	143 803

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313230	NONWOVEN FABRIC MILLS				
11192001	Raw cotton fibers	1,000 bales..	S	29 363	N
00190019	Cotton waste	mil lb..	S	21 493	N
31122305	Cotton linters (net weight)	mil lb..	D	D	N
11200000	Raw wool, mohair, and other animal fibers (scoured weight)	mil lb..	6.2	12 517	N
00999823	Wool noils and waste	mil lb..	D	D	N
32522105	Rayon and acetate staple and tow	mil lb..	44.2	87 349	N
32522201	Noncellulosic (polyester, nylon, etc.) manmade textile fibers	mil lb..	P406.2	566 141	N
31311003	Yarn, all fibers	mil lb..	S	132 941	N
31320003	Textile fabrics		X	69 391	N
32212003	Paper (cellulosic wadding)	mil lb..	78.7	82 449	N
32552009	Adhesives and binders (resins)	mil lb..	P99.3	107 083	N
32500015	Additives (fire retardants, water repellants, softeners, and antistatics, etc.)		X	45 368	N
00999825	New and used rags, clips, etc.	mil lb..	D	D	N
32521139	Vinyl and vinyl copolymer resins, all forms		X	10 814	N
32521115	Plastics resins (except vinyl) consumed in the form of granules, pellets, powders, liquids, etc.	mil lb..	P805.2	562 676	N
32221001	Paperboard containers, boxes, and corrugated paperboard		X	90 628	N
32513003	Dyes, lakes, and toners		X	27 744	N
00970099	All other materials and components, parts, containers, and supplies		X	438 820	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.		X	107 559	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313230 NONWOVEN FABRIC MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing nonwoven fabrics and felts. Processes used include bonding and/or interlocking fibers by mechanical, chemical, thermal, or solvent means, or by combinations thereof.

The data published with NAICS code 313230 include the following SIC industries:

2297 Nonwoven fabrics
2299 Textile goods, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	229002 pt	229002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111WYVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111WYVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111WYVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111WYVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	22296 pt	22296 pt	3132220	23970	23970
3131123YVW	2282300	2282300	313210N111	2221H10	2221H10	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N121 pt	2221H20	2221H20	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N121 pt	2229605	2229601 pt	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2229608	2229603 pt	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H00	2221H00	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210NYVW pt	2229600 pt	2229600 pt	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210P	2221J	2221J	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210P111	2221J01	2221J01	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210P121	2221J03	2221J03	3132301121 pt	2297132 pt	2297135 pt
3131130 pt	22840 pt	22840 pt	313210P131	2221J05	2221J05	3132301121 pt	2297132 pt	2297135 pt
3131130 pt	22990 pt	22990 pt	313210P141 pt	2221J12 pt	2221J07	3132301131 pt	2297124 pt	2297121
3131130171	2284081	2284010 pt	313210P141 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297123
3131130181	2284083	2284023 pt	313210P151	2221J13	2221J13	3132301131 pt	2297124 pt	2297125
3131130191	2284085	2284031 pt	313210P161	2221J15	2221J15	3132301131 pt	2297124 pt	2297125
3131130A1	2284087	2284033 pt	313210P171	2221J19	2221J19	3132301141 pt	2297134 pt	2297133 pt
3131130C1	2284061	2284061	313210P181	2221J23	2221J23	3132301141 pt	2297134 pt	2297135 pt
3131130D1	2299607	2299603 pt	313210P191	2221J25	2221J25	3132301151 pt	2297136 pt	2297131 pt
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1997 Economic Census

Manufacturing

Industry Series



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U.S. Department of Commerce
Economics and Statistics Administration
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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313241	Weft knit fabric mills	236	256	24 903	578 598	20 765	42 291	409 853	1 149 185	1 936 289	3 089 010	106 429
225710	Circular knit fabric mills (pt)	N	256	24 903	578 598	20 765	42 291	409 853	1 149 185	1 936 289	3 089 010	106 429

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313241, WEFT KNIT FABRIC MILLS												
United States	1	256	165	24 903	578 598	20 765	42 291	409 853	1 149 185	1 936 289	3 089 010	106 429
California	2	26	15	1 908	50 061	1 508	3 071	27 405	95 307	138 860	233 866	10 397
Florida	1	7	3	342	8 997	297	636	6 780	22 839	42 430	65 591	905
New Jersey	1	17	9	721	22 047	593	1 286	16 709	38 184	23 146	60 838	3 609
New York	5	44	12	901	23 219	753	1 619	18 516	46 536	55 232	100 620	3 290
North Carolina	1	81	64	10 435	226 819	8 678	17 605	163 841	458 722	948 203	1 407 172	35 072
Pennsylvania	3	17	11	1 156	27 747	991	2 068	22 113	53 180	62 967	113 824	3 950

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313241, WEFT KNIT FABRIC MILLS		313241, WEFT KNIT FABRIC MILLS—Con.	
Companies ¹	number.. 236	3132411, Weft knit fabric mills—manufacturer—Con.	
All establishments	number.. 256	Production-worker hours	1,000.. 25 281
Establishments with 1 to 19 employees	number.. 91	Production-worker wages	\$1,000.. 246 776
Establishments with 20 to 99 employees	number.. 97	Total cost of materials	\$1,000.. 1 348 453
Establishments with 100 employees or more	number.. 68	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 238 580
All employees	number.. 24 903	Cost of resales	\$1,000.. 3 346
Total compensation ²	\$1,000.. 701 991	Cost of fuels	\$1,000.. 24 872
Annual payroll	\$1,000.. 578 598	Cost of purchased electricity	\$1,000.. 31 656
Total fringe benefits	\$1,000.. 123 393	Cost of contract work	\$1,000.. 49 999
Production workers, average for year	number.. 20 765	Quantity of electricity purchased for heat and power	1,000 kWh.. 591 385
Production workers on March 12	number.. 20 787	Quantity of electricity generated less sold for heat and power	1,000 kWh.. —
Production workers on May 12	number.. 20 868	Total value of shipments	\$1,000.. 2 084 948
Production workers on August 12	number.. 21 066	Primary products value of shipments	\$1,000.. X
Production workers on November 12	number.. 20 339	Secondary products value of shipments	\$1,000.. X
Production-worker hours	1,000.. 42 291	Total miscellaneous receipts	\$1,000.. X
Production-worker wages	\$1,000.. 409 853	Value of resales	\$1,000.. X
Total cost of materials	\$1,000.. 1 936 289	Contract receipts	\$1,000.. X
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 761 892	Other miscellaneous receipts	\$1,000.. X
Cost of resales	\$1,000.. 4 453	Primary products specialization ratio	percent.. X
Cost of fuels	\$1,000.. 36 174	Value of primary products shipments made in all industries	\$1,000.. X
Cost of purchased electricity	\$1,000.. 47 922	Value of primary products shipments made in this industry	\$1,000.. X
Cost of contract work	\$1,000.. 85 848	Value of primary products shipments made in other industries	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 875 240	Coverage ratio	percent.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Value added	\$1,000.. 725 940
Total value of shipments	\$1,000.. 3 089 010	Total inventories, beginning of year	\$1,000.. 198 882
Primary products value of shipments	\$1,000.. 2 990 524	Finished goods inventories, beginning of year	\$1,000.. 59 680
Secondary products value of shipments	\$1,000.. 85 118	Work-in-process inventories, beginning of year	\$1,000.. 65 239
Total miscellaneous receipts	\$1,000.. 13 368	Materials and supplies inventories, beginning of year	\$1,000.. 73 963
Value of resales	\$1,000.. 4 760	Total inventories, end of year	\$1,000.. 212 909
Contract receipts	\$1,000.. D	Finished goods inventories, end of year	\$1,000.. 53 749
Other miscellaneous receipts	\$1,000.. D	Work-in-process inventories, end of year	\$1,000.. 60 615
Primary products specialization ratio	percent.. 97	Materials and supplies inventories, end of year	\$1,000.. 98 545
Value of primary products shipments made in all industries	\$1,000.. 3 195 935	Gross book value of total assets at beginning of year	\$1,000.. X
Value of primary products shipments made in this industry	\$1,000.. 2 990 524	Total capital expenditures (new and used)	\$1,000.. X
Value of primary products shipments made in other industries	\$1,000.. 205 411	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Coverage ratio	percent.. 93	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Value added	\$1,000.. 1 149 185	Total retirements ²	\$1,000.. X
Total inventories, beginning of year	\$1,000.. 262 300	Gross book value of total assets at end of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 70 669	Total depreciation during year ²	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 90 465	Total rental payments ²	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 101 166	Buildings and other structures rental payments ²	\$1,000.. X
Total inventories, end of year	\$1,000.. 284 340	Machinery and equipment rental payments ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 68 788	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 88 810	Response coverage ratio ⁴	percent.. X
Materials and supplies inventories, end of year	\$1,000.. 126 742	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 1 137 565	Response coverage ratio ⁴	percent.. X
Total capital expenditures (new and used)	\$1,000.. 106 429	Cost of purchased communications services ³	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 11 314	Response coverage ratio ⁴	percent.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 95 115	Cost of purchased legal services ³	\$1,000.. X
Total retirements ²	\$1,000.. 54 833	Response coverage ratio ⁴	percent.. X
Gross book value of total assets at end of year	\$1,000.. 1 189 161	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Total depreciation during year ²	\$1,000.. 84 400	Response coverage ratio ⁴	percent.. X
Total rental payments ²	\$1,000.. 34 254	Cost of purchased advertising services ³	\$1,000.. X
Buildings and other structures rental payments ²	\$1,000.. 13 137	Response coverage ratio ⁴	percent.. X
Machinery and equipment rental payments ²	\$1,000.. 21 117	Cost of purchased software and other data processing services ³	\$1,000.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 6 711	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 82	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 36 253	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 82	Cost of purchased legal services ³	\$1,000.. X
Cost of purchased communications services ³	\$1,000.. 3 534	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 82	3132412, Weft knit fabric mills—jobber	
Cost of purchased legal services ³	\$1,000.. 2 837	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 82	All establishments	number.. 18
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 965	Establishments with 1 to 19 employees	number.. 8
Response coverage ratio ⁴	percent.. 82	Establishments with 20 to 99 employees	number.. 5
Cost of purchased advertising services ³	\$1,000.. 846	Establishments with 100 employees or more	number.. 5
Response coverage ratio ⁴	percent.. 82	All employees	number.. 1 923
Cost of purchased software and other data processing services ³	\$1,000.. 2 607	Total compensation ²	\$1,000.. 55 069
Response coverage ratio ⁴	percent.. 82	Annual payroll	\$1,000.. 45 755
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 418	Total fringe benefits	\$1,000.. 9 314
Response coverage ratio ⁴	percent.. 82	Production workers, average for year	number.. 1 683
3132411, Weft knit fabric mills—manufacturer		Production workers on March 12	number.. 1 695
Companies ¹	number.. N	Production workers on May 12	number.. 1 696
All establishments	number.. 141	Production workers on August 12	number.. 1 674
Establishments with 1 to 19 employees	number.. 57	Production workers on November 12	number.. 1 667
Establishments with 20 to 99 employees	number.. 42	Production-worker hours	1,000.. 3 532
Establishments with 100 employees or more	number.. 42	Production-worker wages	\$1,000.. 35 071
All employees	number.. 15 319	Total cost of materials	\$1,000.. 409 676
Total compensation ²	\$1,000.. 440 648	Cost of materials, parts, containers, etc., consumed	\$1,000.. 378 025
Annual payroll	\$1,000.. 358 649	Cost of resales	\$1,000.. 586
Total fringe benefits	\$1,000.. 81 999	Cost of fuels	\$1,000.. 124
Production workers, average for year	number.. 12 570	Cost of purchased electricity	\$1,000.. 3 173
Production workers on March 12	number.. 12 647	Cost of contract work	\$1,000.. 27 768
Production workers on May 12	number.. 12 665	Quantity of electricity purchased for heat and power	1,000 kWh.. 69 976
Production workers on August 12	number.. 12 846	Quantity of electricity generated less sold for heat and power	1,000 kWh.. —
Production workers on November 12	number.. 12 122		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313241, WEFT KNIT FABRIC MILLS—Con.		313241, WEFT KNIT FABRIC MILLS—Con.	
3132412, Weft knit fabric mills—jobber—Con.		3132413, Weft knit fabric mills—contractor—Con.	
Total value of shipments	\$1,000.. 540 482	Production workers, average for year	number.. 6 512
Primary products value of shipments	\$1,000.. X	Production workers on March 12	number.. 6 445
Secondary products value of shipments	\$1,000.. X	Production workers on May 12	number.. 6 507
Total miscellaneous receipts	\$1,000.. X	Production workers on August 12	number.. 6 546
Value of resales	\$1,000.. X	Production workers on November 12	number.. 6 550
Contract receipts	\$1,000.. X	Production-worker hours	1,000.. 13 478
Other miscellaneous receipts	\$1,000.. X	Production-worker wages	\$1,000.. 128 006
Primary products specialization ratio	percent.. X	Total cost of materials	\$1,000.. 178 160
Value of primary products shipments made in all industries	\$1,000.. X	Cost of materials, parts, containers, etc., consumed	\$1,000.. 145 287
Value of primary products shipments made in this industry	\$1,000.. X	Cost of resales	\$1,000.. 521
Value of primary products shipments made in other industries	\$1,000.. X	Cost of fuels	\$1,000.. 11 178
Coverage ratio	percent.. X	Cost of purchased electricity	\$1,000.. 13 093
Value added	\$1,000.. 131 889	Cost of contract work	\$1,000.. 8 081
Total inventories, beginning of year	\$1,000.. 24 923	Quantity of electricity purchased for heat and power	1,000 kWh.. 213 879
Finished goods inventories, beginning of year	\$1,000.. 7 587	Quantity of electricity generated less sold for heat and power	1,000 kWh.. —
Work-in-process inventories, beginning of year	\$1,000.. 10 841	Total value of shipments	\$1,000.. 463 580
Materials and supplies inventories, beginning of year	\$1,000.. 6 495	Primary products value of shipments	\$1,000.. X
Total inventories, end of year	\$1,000.. 26 609	Secondary products value of shipments	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 8 318	Total miscellaneous receipts	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 11 193	Value of resales	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 7 098	Contract receipts	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. X	Other miscellaneous receipts	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. X	Primary products specialization ratio	percent.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. X	Value of primary products shipments made in all industries	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. X	Value of primary products shipments made in this industry	\$1,000.. X
Total retirements ²	\$1,000.. X	Value of primary products shipments made in other industries	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. X	Coverage ratio	percent.. X
Total depreciation during year ²	\$1,000.. X	Value added	\$1,000.. 291 356
Total rental payments ²	\$1,000.. X	Total inventories, beginning of year	\$1,000.. 38 495
Buildings and other structures rental payments ²	\$1,000.. X	Finished goods inventories, beginning of year	\$1,000.. 3 402
Machinery and equipment rental payments ²	\$1,000.. X	Work-in-process inventories, beginning of year	\$1,000.. 14 385
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X	Materials and supplies inventories, beginning of year	\$1,000.. 20 708
Response coverage ratio ⁴	percent.. X	Total inventories, end of year	\$1,000.. 44 822
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X	Finished goods inventories, end of year	\$1,000.. 6 721
Response coverage ratio ⁴	percent.. X	Work-in-process inventories, end of year	\$1,000.. 17 002
Cost of purchased communications services ³	\$1,000.. X	Materials and supplies inventories, end of year	\$1,000.. 21 099
Response coverage ratio ⁴	percent.. X	Gross book value of total assets at beginning of year	\$1,000.. X
Cost of purchased legal services ³	\$1,000.. X	Total capital expenditures (new and used)	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. X	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Total retirements ²	\$1,000.. X
Cost of purchased advertising services ³	\$1,000.. X	Gross book value of total assets at end of year	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Total depreciation during year ²	\$1,000.. X
Cost of purchased software and other data processing services ³	\$1,000.. X	Total rental payments ²	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Buildings and other structures rental payments ²	\$1,000.. X
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X	Machinery and equipment rental payments ²	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
3132413, Weft knit fabric mills—contractor		Response coverage ratio ⁴	percent.. X
Companies ¹	number.. N	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
All establishments	number.. 97	Response coverage ratio ⁴	percent.. X
Establishments with 1 to 19 employees	number.. 26	Cost of purchased communications services ³	\$1,000.. X
Establishments with 20 to 99 employees	number.. 50	Response coverage ratio ⁴	percent.. X
Establishments with 100 employees or more	number.. 21	Cost of purchased legal services ³	\$1,000.. X
All employees	number.. 7 661	Response coverage ratio ⁴	percent.. X
Total compensation ²	\$1,000.. 206 274	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Annual payroll	\$1,000.. 174 194	Response coverage ratio ⁴	percent.. X
Total fringe benefits	\$1,000.. 32 080	Cost of purchased advertising services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased software and other data processing services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313241, WEFT KNIT FABRIC MILLS												
All establishments	1	256	165	24 903	578 598	20 765	42 291	409 853	1 149 185	1 936 289	3 089 010	106 429
Establishments with 1 to 4 employees	7	25	—	59	1 734	48	94	1 153	3 680	4 640	8 255	239
Establishments with 5 to 9 employees	7	30	—	208	5 915	170	375	4 358	16 036	23 595	39 916	1 010
Establishments with 10 to 19 employees	3	36	—	517	13 172	410	811	8 985	32 902	51 969	83 481	2 417
Establishments with 20 to 49 employees	1	57	57	1 719	39 696	1 379	2 671	25 949	126 803	101 134	226 705	6 419
Establishments with 50 to 99 employees	3	40	40	2 935	70 426	2 383	4 976	48 341	135 852	128 948	265 377	10 708
Establishments with 100 to 249 employees	1	41	41	6 702	156 592	5 594	11 679	109 100	308 090	578 095	887 790	27 969
Establishments with 250 to 499 employees	—	18	18	6 205	137 768	5 204	10 707	100 620	271 788	457 258	726 348	32 035
Establishments with 500 to 999 employees	—	8	8	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	8	47	—	434	9 525	375	732	7 564	19 271	30 822	49 976	1 795

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313241	Weft knit fabric mills	256	24 903	578 598	20 765	42 291	409 853	1 149 185	1 936 289	3 089 010	106 429
3132411	Weft (circular) knit fabrics greige goods, except hosiery	74	6 911	157 271	5 837	11 908	110 897	239 350	843 935	1 090 710	33 594
3132413	Finished weft (circular) knit fabrics, except hosiery	65	12 945	308 202	10 645	21 480	211 182	685 340	954 857	1 638 728	51 870
3132415	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics	73	4 504	101 498	3 812	7 995	78 680	200 521	97 987	295 910	18 918

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313241	Weft knit fabrics	N	X	X	3 195 935	N	X	X	N
3132411	Weft (circular) knit fabrics greige goods, except hosiery @	N	X	X	1 214 207	N	X	X	1 284 052
31324111	Weft (circular) knit fabrics greige goods (except hosiery), narrow fabrics (12 inches wide or less)	N	X	X	64 423	N	X	X	N
3132411111	Weft (circular) knit fabrics greige goods (except hosiery), narrow fabrics (12 inches wide or less) mil lb..	17	S	P19.3	64 423	6	10.5	P5.4	12 891
31324112	Weft (circular) knit fabrics greige goods (except hosiery), broad fabrics (more than 12 inches wide)	N	X	X	1 148 374	N	X	X	N
3132411221	Weft (circular) knit fabrics greige goods (except hosiery), broad fabrics (more than 12 inches wide) mil lb..	81	1 683.8	628.7	1 148 374	99	1 885.4	674.8	1 265 543
3132411Y	Weft (circular) knit fabrics greige goods (except hosiery), nsk	N	X	X	1 410	N	X	X	N
3132411YWW	Weft (circular) knit fabrics greige goods (except hosiery), nsk	N	X	X	1 410	N	X	X	5 618
3132413	Finished weft (circular) knit fabrics, except hosiery, finished in knitting mill	N	X	X	1 603 477	N	X	X	N
31324131	Finished weft (circular) knit fabrics (except hosiery)	N	X	X	1 603 477	N	X	X	N
3132413111	Finished weft (circular) knit fabrics (except hosiery), knit and finished in the same establishment, narrow (12 inches wide or less) mil fin lin yd..	15	X	S	64 962	10	X	S	37 161
3132413121	Finished weft (circular) knit fabrics (except hosiery), knit and finished in the same establishment, broad (more than 12 inches wide) mil fin lin yd..	67	X	P687.9	1 538 515	78	X	649.5	1 863 656
3132413Y	Finished weft (circular) knit fabrics (except hosiery), nsk	N	X	X	-	N	X	X	N
3132413YWW	Finished weft (circular) knit fabrics (except hosiery), nsk	N	X	X	-	N	X	X	N
3132415	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics	N	X	X	296 431	N	X	X	N
31324151	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics	N	X	X	271 240	N	X	X	N
3132415111	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics, narrow (12 inches wide or less)	4	X	X	12 192	4	X	X	15 502
3132415121	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics, broad (more than 12 inches wide)	71	X	X	259 048	52	X	X	223 448
3132415Y	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics, nsk	N	X	X	25 191	N	X	X	N
3132415YWW	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics, nsk, for nonadministrative-record establishments	N	X	X	24 162	N	X	X	17 383
3132415YWY	Contract and commission receipts for knitting only or knitting and finishing weft (circular) knit fabrics, nsk, for administrative-record establishments	N	X	X	1 029	13	X	X	3 758
313241W	Weft (circular) knit fabrics, nsk, total	N	X	X	81 820	N	X	X	N
313241WY	Weft (circular) knit fabrics, nsk, total	N	X	X	81 820	N	X	X	N
313241WYWW	Weft (circular) knit fabrics, nsk, for nonadministrative-record establishments	N	X	X	49 351	N	X	X	N
313241WYWY	Weft (circular) knit fabrics, nsk, for administrative-record establishments	N	X	X	32 469	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3132411	WEFT (CIRCULAR) KNIT FABRICS GREIGE GOODS, EXCEPT HOSIERY @		
	United States	1 214 207	1 284 052
	California	36 534	55 696
	Georgia	36 946	35 425
	New Jersey	15 770	24 728
	New York	14 405	27 901
	North Carolina	696 771	700 006
	Pennsylvania	30 577	22 676
3132413	FINISHED WEFT (CIRCULAR) KNIT FABRICS, EXCEPT HOSIERY, FINISHED IN KNITTING MILL		
	United States	1 603 477	N
	California	192 681	N
	Georgia	63 763	N
	New York	43 298	N
	North Carolina	594 169	N
	South Carolina	180 214	N
	Tennessee	256 857	N
3132415	CONTRACT AND COMMISSION RECEIPTS FOR KNITTING ONLY OR KNITTING AND FINISHING WEFT (CIRCULAR) KNIT FABRICS		
	United States	296 431	N
	California	20 561	N
	Florida	2 793	N
	New Jersey	40 861	N
	New York	19 701	N
	North Carolina	150 846	N
	Pennsylvania	39 695	N
	South Carolina	14 532	N
	Tennessee	2 027	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313241	WEFT KNIT FABRIC MILLS				
31324000	Knit fabrics	S	7 220	N	N
32520003	Manmade fibers, staple, and tow	S	53 834	N	N
11192001	Raw cotton fibers	D	D	N	N
11241001	Raw wool fibers	90.3	711	N	N
31311105	Carded cotton yarn	P202.3	301 314	N	N
31311107	Combed cotton yarn	S	295 901	N	N
31311109	Spun rayon and acetate yarn	S	13 269	N	N
31311111	Spun nylon yarn	1.7	5 322	N	N
31311113	Spun polyester yarns	243.7	381 074	N	N
32522101	Rayon, acetate, and/or lyocell filament yarns	S	18 625	N	N
32522211	Nylon filament yarn	13.5	30 044	N	N
32522221	Polyester filament yarn	83.2	130 598	N	N
31311115	Acrylic yarns	S	23 769	N	N
31311121	Wool yarn	D	D	N	N
31311001	All other yarns	91.9	162 155	N	N
00970099	All other materials and components, parts, containers, and supplies	X	194 548	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	128 897	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; 9 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313241 WEFT KNIT FABRIC MILLS

This U.S. industry comprises establishments primarily engaged in knitting weft (i.e., circular) fabric or knitting and finishing weft fabric. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

The data published with NAICS code 313241 include the following SIC industry:

2257 Circular knit fabric mills (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 313241 do not include establishments primarily engaged in the manufacture of articles of weft knit fabric. The NAICS definitions will be fully implemented with the 2002 Economic Census.

3132411 Weft Knit Fabric Mills - Manufacturer

Establishments primarily engaged in knitting weft (i.e., circular) fabric; knitting and finishing weft fabric; or knitting, finishing, and further fabricating weft fabric products (except apparel).

3132412 Weft Knit Fabric Mills - Jobber

Establishments engaged as weft knit fabric jobbers, who perform entrepreneurial functions of a manufacturer, including buying raw materials, designing and preparing samples, arranging for fabric to be made from their materials, and marketing finished fabric or fabricated products (except apparel).

3132413 Weft Knit Fabric Mills - Contractor

Establishments primarily engaged in knitting or finishing weft knit fabric or further fabricating weft knit fabric into products (except apparel) on a commission basis.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3132411	For additional detail, see Current Industrial Report MA313K, Knit Fabric Production.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221H12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282000 pt	2282000 pt	313210N141 pt	2221J12 pt	2221J11	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N151	2221J13	2221J13	3132301131 pt	2297124 pt	2297125
3131130 pt	22840 pt	22840 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297123
3131130 pt	22990 pt	22990 pt	313210N171	2221J19	2221J19	3132301131 pt	2297124 pt	2297125
313113011	22996 pt	22996 pt	313210N181	2221J23	2221J23	3132301141 pt	2297134 pt	2297131 pt
3131130111	2284010	2284010 pt	313210N191	2221J25	2221J25	3132301141 pt	2297134 pt	2297133 pt
3131130121	2284023	2284023 pt	313210N1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297131 pt
3131130131 pt	2284045 pt	2284041	313210N1D1	2221J29	2221J29	3132301151 pt	2297136 pt	2297133 pt
3131130131 pt	2284045 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301151 pt	2297136 pt	2297135 pt
3131130141 pt	2284047 pt	2284043 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297131 pt
3131130141 pt	2284047 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297133 pt
3131130151 pt	2284035 pt	2284031 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297135 pt
3131130151 pt	2284035 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301YVW	2297100	2297100
3131130151 pt	2284035 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132303	22972	22972
3131130161 pt	2284037 pt	2284033 pt	313210Q	2221K	2221K	3132303111	2297241	2297241
3131130161 pt	2284037 pt	2284051 pt	313210Q000	2221K00	2221K00	3132303121	2297203	2297203
3131130171	2284081	2284010 pt	313210R	2221M	2221M	3132303131	2297205	2297205
3131130181	2284083	2284023 pt	313210R111 pt	2221M06 pt	2221M01 pt	3132303141	2297251	2297251
3131130191	2284085	2284031 pt	313210R111 pt	2221M06 pt	2221M03 pt	3132303251	2297298	2297298
31311301A1	2284087	2284033 pt	313210R121 pt	2221M08 pt	2221M01 pt	3132303YVW	2297200	2297200
31311301C1	2284061	2284061	313210R131 pt	2221M08 pt	2221M03 pt	3132305	22991	22991
31311301D1	2299607	2299603 pt	313210R131 pt	2221M11 pt	2221M01 pt	3132305111	2299111	2299111
3131130YVW pt	2284000 pt	2284000 pt	313210R141 pt	2221M16 pt	2221M03 pt	3132305221	2299135	2299135
3131130YVW pt	2299000 pt	2299000 pt	313210R141 pt	2221M16 pt	2221M01 pt	3132305331	2299147	2299147
3131130YVW pt	2299600 pt	2299600 pt	313210RYVW	2221M00	2221M00	3132305YVW	2299100	2299100
3131130YVW pt	2284002 pt	2284002 pt	313210T	22312	22312	313230W pt	22970	22970
3131130YVW pt	2299002 pt	2299002 pt	313210T100	2231200	2231200	3132101	2211B	2211B
3132101	2211B	2211B	3132101100	2211B00	2211B00	31321010100	2211B00	2211B00
3132103	2211C	2211C	3132103	2211C	2211C	3132103	2211C	2211C
3132103100	2211C00	2211C00	3132103100	2211C00	2211C00	3132103100	2211C00	2211C00
3132105	2211D	2211D	3132105	2211D	2211D	3132105	2211D	2211D
3132105100	2211D00	2211D00	3132105100	2211D00	2211D00	3132105100	2211D00	2211D00
3132107	2211E	2211E	3132107	2211E	2211E	3132107	2211E	2211E
3132107100	2211E00	2211E00	3132107100	2211E00	2211E00	3132107100	2211E00	2211E00
3132109	2211F	2211F	3132109	2211F	2211F	3132109	2211F	2211F
3132109111	2211F01	2211F01	3132109111	2211F01	2211F01	3132109111	2211F01	2211F01
3132109121	2211F03	2211F03	3132109121	2211F03	2211F03	3132109121	2211F03	2211F03
3132109131	2211F05	2211F05	3132109131	2211F05	2211F05	3132109131	2211F05	2211F05
3132109141	2211F07	2211F07	3132109141	2211F07	2211F07	3132109141	2211F07	2211F07
3132109151 pt	2211F10 pt	2211F09	3132109151 pt	2211F10 pt	2211F09	3132109151 pt	2211F09	2211F09
3132109151 pt	2211F10 pt	2211F11	3132109151 pt	2211F10 pt	2211F11	3132109151 pt	2211F11	2211F11
3132109161	2211F13	2211F13	3132109161	2211F13	2211F13	3132109161	2211F13	

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115351 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115791 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071 pt.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071 pt.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	3133115811 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			3133115811 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912 pt.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918 pt.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
3132495100.....	2258500.....	2258500.....	3133117261 pt.....	2262918 pt.....	2262919.....	3133120YVW pt.....	2257300 pt.....	2257300 pt.....
			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
3132497.....	22589 pt.....	22589 pt.....	3133117381.....	2262927.....	2262927.....	3133120YVW pt.....	2258400 pt.....	2258400 pt.....
3132497111.....	2258913.....	2258913.....	3133117491.....	2262925.....	2262925.....	3133120YVW pt.....	2258900 pt.....	2258900 pt.....
3132497121.....	2258917.....	2258917.....	31331175B1.....	2262929.....	2262929.....	3133120YVW pt.....	2269000.....	2269000 pt.....
3132497YVW.....	2258900 pt.....	2258900 pt.....	31331175D1.....	2262931.....	2262931.....			
3132497YVW.....	2258902.....	2258902.....	3133117YVW.....	2262900.....	2262900.....	3133120YVW pt.....	2282000 pt.....	2282000 pt.....
						3133120YVW pt.....	2282200 pt.....	2282200 pt.....
3132499.....	22590 pt.....	22590 pt.....	3133119 pt.....	22316 pt.....	22316 pt.....	3133120YVW pt.....	2282900 pt.....	2282900 pt.....
3132499100.....	2259050.....	2259050.....				3133120YVW pt.....	2284000 pt.....	2284000 pt.....
			3133119 pt.....	22317 pt.....	22317 pt.....	3133120YVW pt.....	2299000 pt.....	2299000 pt.....
313249W pt.....	22580 pt.....	22580 pt.....	3133119100 pt.....	2231621.....	2231600 pt.....	3133120YVW pt.....	2299600 pt.....	2299600 pt.....
			3133119100 pt.....	2231600 pt.....	2231600 pt.....	3133120YVW pt.....	5131000 pt.....	5131000 pt.....
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313249WYVW pt.....	2259002 pt.....	2259002 pt.....	3133119100 pt.....	2231792.....	2231792.....			
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			313311W pt.....	22620.....	22620.....	3133120YVW pt.....	2282002 pt.....	2282002 pt.....
3133111 pt.....	22617.....	22617.....				3133120YVW pt.....	2284002 pt.....	2284002 pt.....
			313311W pt.....	51310.....	51310 pt.....	3133120YVW pt.....	2299002 pt.....	2299002 pt.....
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3133111111 pt.....	2261701.....	2261701.....	313311WYVW pt.....	2231000 pt.....	2231000 pt.....	3133201.....	22952.....	22952.....
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3133111121 pt.....	2261703.....	2261703.....	313311WYVW pt.....	2262000.....	2262000.....	3133201121.....	2295215.....	2295215.....
3133111121 pt.....	5131703.....	5131000 pt.....	313311WYVW pt.....	5131000 pt.....	5131000 pt.....	3133201131.....	2295217.....	2295217.....
3133111131 pt.....	2261705.....	2261705.....	313311WYVW pt.....	2231002 pt.....	2231002 pt.....	3133201241.....	2295222.....	2295222.....
3133111131 pt.....	5131705.....	5131000 pt.....	313311WYVW pt.....	2261002.....	2261002.....	3133201251.....	2295224.....	2295224.....
3133111141 pt.....	2261707.....	2261707.....	313311WYVW pt.....	2262002.....	2262002.....	3133201261.....	2295226.....	2295226.....
3133111141 pt.....	5131707.....	5131000 pt.....	313311WYVW pt.....	5131002 pt.....	5131000 pt.....	3133201371.....	2295232.....	2295232.....
3133111151 pt.....	2261710 pt.....	2261709.....	3133120 pt.....	22310.....	22310 pt.....	3133201381.....	2295234.....	2295234.....
3133111151 pt.....	2261710 pt.....	2261711.....	3133120 pt.....	22311.....	22311.....	3133201391.....	2295236.....	2295236.....
						3133201YVW.....	2295200.....	2295200.....
3133111151 pt.....	5131710.....	5131000 pt.....	3133120 pt.....	22317 pt.....	22317 pt.....	3133203.....	3069D pt.....	3069D pt.....
3133111161 pt.....	2261713.....	2261713.....	3133120 pt.....	22570 pt.....	22570 pt.....	3133203111.....	3069D15.....	3069D15.....
3133111161 pt.....	5131713.....	5131000 pt.....	3133120 pt.....	22573 pt.....	22573 pt.....	3133203121.....	3069D18.....	3069D18.....
3133111171 pt.....	2261718 pt.....	2261715.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203131.....	3069D20.....	3069D20.....
3133111171 pt.....	2261718 pt.....	2261719.....	3133120 pt.....	22579 pt.....	22579 pt.....	3133203YVW.....	3069D00 pt.....	3069D00 pt.....
3133111171 pt.....	5131718.....	5131000 pt.....	3133120 pt.....	22579 pt.....	22579 pt.....			
3133111181 pt.....	2261723.....	2261723.....	3133120 pt.....	22580 pt.....	22580 pt.....	3133205.....	22953.....	22953.....
3133111181 pt.....	5131723.....	5131000 pt.....	3133120 pt.....	22584 pt.....	22584 pt.....	313320511.....	2295311.....	2295311.....
3133111YVW pt.....	2261700.....	2261700.....	3133120 pt.....	22589 pt.....	22589 pt.....	3133205121.....	2295315.....	2295315.....
3133111YVW pt.....	5131700.....	5131000 pt.....	3133120 pt.....	22589 pt.....	22589 pt.....	3133205231 pt.....	2295319 pt.....	2295317 pt.....
			3133120 pt.....	22690.....	22690.....	3133205231 pt.....	2295319 pt.....	2295338 pt.....
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1997

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313249	Other knit fabric & lace mills . . .	180	196	18 377	464 104	15 277	31 359	327 896	1 226 347	1 361 979	2 590 220	111 013
225810	Lace & warp knit fabric mills (pt)	N	172	17 442	437 853	14 481	29 827	310 340	1 170 625	1 320 982	2 493 923	98 028
225910	Knitting mills, n.e.c. (pt)	N	24	935	26 251	796	1 532	17 556	55 722	40 997	96 297	12 985

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
313249, OTHER KNIT FABRIC & LACE MILLS												
United States	1	196	120	18 377	464 104	15 277	31 359	327 896	1 226 347	1 361 979	2 590 220	111 013
California	1	9	3	111	2 380	93	187	1 726	5 842	7 493	13 452	308
Florida	1	9	2	235	5 329	201	370	3 843	15 514	10 178	25 613	1 341
New Jersey	5	32	13	738	24 913	587	1 287	16 827	61 611	50 538	112 062	3 566
New York	-	35	16	2 663	73 551	2 222	4 845	52 773	231 097	158 864	392 160	27 283
North Carolina	-	45	43	7 887	192 010	6 697	13 837	133 462	497 083	581 396	1 073 121	33 244
Pennsylvania	7	7	6	657	15 255	502	1 025	10 176	60 402	49 424	110 630	2 633
Rhode Island	-	12	7	785	23 204	652	1 288	17 165	56 638	79 928	137 159	4 370

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

Item	Value	Item	Value
313249, OTHER KNIT FABRIC & LACE MILLS		313249, OTHER KNIT FABRIC & LACE MILLS— Con.	
Companies ¹	number.. 180	3132491, Other knit fabric & lace mills— manufacturer—Con.	
All establishments	number.. 196	Production workers, average for year	number.. 12 059
Establishments with 1 to 19 employees	number.. 76	Production workers on March 12	number.. 12 139
Establishments with 20 to 99 employees	number.. 65	Production workers on May 12	number.. 12 077
Establishments with 100 employees or more	number.. 55	Production workers on August 12	number.. 12 069
All employees	number.. 18 377	Production workers on November 12	number.. 11 951
Total compensation ²	\$1,000.. 557 184	Production-worker hours	1,000.. 24 502
Annual payroll	\$1,000.. 464 104	Production-worker wages	\$1,000.. 257 474
Total fringe benefits	\$1,000.. 93 080	Total cost of materials	\$1,000.. 1 160 733
Production workers, average for year	number.. 15 277	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 088 424
Production workers on March 12	number.. 15 291	Cost of resales	\$1,000.. 5 879
Production workers on May 12	number.. 15 373	Cost of fuels	\$1,000.. 18 035
Production workers on August 12	number.. 15 303	Cost of purchased electricity	\$1,000.. 29 667
Production workers on November 12	number.. 15 141	Cost of contract work	\$1,000.. 18 728
Production-worker hours	1,000.. 31 359	Quantity of electricity purchased for heat and power	1,000 kWh.. 499 718
Production-worker wages	\$1,000.. 327 896	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 1 361 979	Total value of shipments	\$1,000.. 2 145 513
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 271 423	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 6 323	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 26 033	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 38 193	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 20 007	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 636 688	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 2 590 220	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 2 255 105	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 289 491	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 45 624	Coverage ratio	percent.. X
Value of resales	\$1,000.. 12 802	Value added	\$1,000.. 988 305
Contract receipts	\$1,000.. D	Total inventories, beginning of year	\$1,000.. 281 880
Other miscellaneous receipts	\$1,000.. D	Finished goods inventories, beginning of year	\$1,000.. 76 209
Primary products specialization ratio	percent.. 88	Work-in-process inventories, beginning of year	\$1,000.. 104 649
Value of primary products shipments made in all industries	\$1,000.. 2 371 485	Materials and supplies inventories, beginning of year	\$1,000.. 101 022
Value of primary products shipments made in this industry	\$1,000.. 2 255 105	Total inventories, end of year	\$1,000.. 284 583
Value of primary products shipments made in other industries	\$1,000.. 116 380	Finished goods inventories, end of year	\$1,000.. 82 844
Coverage ratio	percent.. 95	Work-in-process inventories, end of year	\$1,000.. 101 539
Value added	\$1,000.. 1 226 347	Materials and supplies inventories, end of year	\$1,000.. 100 200
Total inventories, beginning of year	\$1,000.. 334 316	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 99 213	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 117 883	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 117 220	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 331 438	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 103 766	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 111 436	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 116 236	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 1 024 709	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 111 013	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 16 926	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 94 087	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 32 470	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 1 103 252	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 71 661	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 16 978	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 10 716	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 6 262	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 2 713	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 82	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 16 820	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 82	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 4 353	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 82	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 1 669	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 82	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 834	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 82	All establishments	number.. 7
Cost of purchased advertising services ³	\$1,000.. 1 437	Establishments with 1 to 19 employees	number.. 2
Response coverage ratio ⁴	percent.. 82	Establishments with 20 to 99 employees	number.. 3
Cost of purchased software and other data processing services ³	\$1,000.. 1 406	Establishments with 100 employees or more	number.. 2
Response coverage ratio ⁴	percent.. 82	All employees	number.. 738
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 909	Total compensation ²	\$1,000.. 25 049
Response coverage ratio ⁴	percent.. 82	Annual payroll	\$1,000.. 19 655
3132491, Other knit fabric & lace mills— manufacturer		Total fringe benefits	\$1,000.. 5 394
Companies ¹	number.. N	Production workers, average for year	number.. 619
All establishments	number.. 133	Production workers on March 12	number.. 629
Establishments with 1 to 19 employees	number.. 54	Production workers on May 12	number.. 624
Establishments with 20 to 99 employees	number.. 37	Production workers on August 12	number.. 607
Establishments with 100 employees or more	number.. 42	Production workers on November 12	number.. 616
All employees	number.. 14 554	Production-worker hours	1,000.. 1 292
Total compensation ²	\$1,000.. 440 238	Production-worker wages	\$1,000.. 13 024
Annual payroll	\$1,000.. 366 413		
Total fringe benefits	\$1,000.. 73 825		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313249, OTHER KNIT FABRIC & LACE MILLS— Con.		313249, OTHER KNIT FABRIC & LACE MILLS— Con.	
3132492, Other knit fabric & lace mills—jobber— Con.		3132493, Other knit fabric & lace mills—contractor —Con.	
Total cost of materials	\$1,000..	All establishments	number.. 56
Cost of materials, parts, containers, etc., consumed	134 870	Establishments with 1 to 19 employees	number.. 20
Cost of resales	130 195	Establishments with 20 to 99 employees	number.. 25
Cost of fuels	2 406	Establishments with 100 employees or more	number.. 11
Cost of purchased electricity	2 210	All employees	number.. 3 085
Cost of contract work	59	Total compensation ²	\$1,000.. 91 897
Quantity of electricity purchased for heat and power	1,000 kWh..	Annual payroll	\$1,000.. 78 036
Quantity of electricity generated less sold for heat and power ...	1,000 kWh..	Total fringe benefits	\$1,000.. 13 861
Total value of shipments	\$1,000..	Production workers, average for year	number.. 2 599
Primary products value of shipments	\$1,000..	Production workers on March 12	number.. 2 523
Secondary products value of shipments	\$1,000..	Production workers on May 12	number.. 2 672
Total miscellaneous receipts	\$1,000..	Production workers on August 12	number.. 2 627
Value of resales	\$1,000..	Production workers on November 12	number.. 2 574
Contract receipts	\$1,000..	Production-worker hours	1,000.. 5 565
Other miscellaneous receipts	\$1,000..	Production-worker wages	\$1,000.. 57 398
Primary products specialization ratio	percent..	Total cost of materials	\$1,000.. 66 376
Value of primary products shipments made in all industries	\$1,000..	Cost of materials, parts, containers, etc., consumed	\$1,000.. 52 804
Value of primary products shipments made in this industry	\$1,000..	Cost of resales	\$1,000.. 444
Value of primary products shipments made in other industries	\$1,000..	Cost of fuels	\$1,000.. 5 592
Coverage ratio	percent..	Cost of purchased electricity	\$1,000.. 6 316
Value added	\$1,000..	Cost of contract work	\$1,000.. 1 220
Total inventories, beginning of year	\$1,000..	Quantity of electricity purchased for heat and power	1,000 kWh.. 89 474
Finished goods inventories, beginning of year	\$1,000..	Quantity of electricity generated less sold for heat and power ...	1,000 kWh..
Work-in-process inventories, beginning of year	\$1,000..	Total value of shipments	\$1,000.. 203 487
Materials and supplies inventories, beginning of year	\$1,000..	Primary products value of shipments	\$1,000..
Total inventories, end of year	\$1,000..	Secondary products value of shipments	\$1,000..
Finished goods inventories, end of year	\$1,000..	Total miscellaneous receipts	\$1,000..
Work-in-process inventories, end of year	\$1,000..	Value of resales	\$1,000..
Materials and supplies inventories, end of year	\$1,000..	Contract receipts	\$1,000..
Gross book value of total assets at beginning of year	\$1,000..	Other miscellaneous receipts	\$1,000..
Total capital expenditures (new and used)	\$1,000..	Primary products specialization ratio	percent..
Capital expenditures for buildings and other structures (new and used)	\$1,000..	Value of primary products shipments made in all industries	\$1,000..
Capital expenditures for machinery and equipment (new and used)	\$1,000..	Value of primary products shipments made in this industry	\$1,000..
Total retirements ²	\$1,000..	Value of primary products shipments made in other industries	\$1,000..
Gross book value of total assets at end of year	\$1,000..	Coverage ratio	percent..
Total depreciation during year ²	\$1,000..	Value added	\$1,000.. 135 983
Total rental payments ²	\$1,000..	Total inventories, beginning of year	\$1,000.. 28 594
Buildings and other structures rental payments ²	\$1,000..	Finished goods inventories, beginning of year	\$1,000.. 8 987
Machinery and equipment rental payments ²	\$1,000..	Work-in-process inventories, beginning of year	\$1,000.. 9 362
Cost of purchased services for the repair of buildings and other structures ³	\$1,000..	Materials and supplies inventories, beginning of year	\$1,000.. 10 245
Response coverage ratio ⁴	percent..	Total inventories, end of year	\$1,000.. 27 215
Cost of purchased services for the repair of machinery and equipment ³	\$1,000..	Finished goods inventories, end of year	\$1,000.. 10 001
Response coverage ratio ⁴	percent..	Work-in-process inventories, end of year	\$1,000.. 7 220
Cost of purchased communications services ³	\$1,000..	Materials and supplies inventories, end of year	\$1,000.. 9 994
Response coverage ratio ⁴	percent..	Gross book value of total assets at beginning of year	\$1,000..
Cost of purchased legal services ³	\$1,000..	Total capital expenditures (new and used)	\$1,000..
Response coverage ratio ⁴	percent..	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Cost of purchased accounting and bookkeeping services ³	\$1,000..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Response coverage ratio ⁴	percent..	Total retirements ²	\$1,000..
Cost of purchased advertising services ³	\$1,000..	Gross book value of total assets at end of year	\$1,000..
Response coverage ratio ⁴	percent..	Total depreciation during year ²	\$1,000..
Cost of purchased software and other data processing services ³	\$1,000..	Total rental payments ²	\$1,000..
Response coverage ratio ⁴	percent..	Buildings and other structures rental payments ²	\$1,000..
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..	Machinery and equipment rental payments ²	\$1,000..
Response coverage ratio ⁴	percent..	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Companies ¹	number..	Response coverage ratio ⁴	percent..
	N	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased communications services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased software and other data processing services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313249, OTHER KNIT FABRIC & LACE MILLS												
All establishments	1	196	120	18 377	464 104	15 277	31 359	327 896	1 226 347	1 361 979	2 590 220	111 013
Establishments with 1 to 4 employees	9	28	—	55	1 041	48	91	803	2 539	3 341	5 887	270
Establishments with 5 to 9 employees	4	21	—	153	3 497	122	213	2 358	12 124	7 550	19 713	455
Establishments with 10 to 19 employees	3	27	—	382	11 785	315	667	7 501	37 902	29 142	68 100	1 287
Establishments with 20 to 49 employees	3	43	43	1 390	38 529	1 125	2 207	25 934	88 207	87 545	175 673	5 724
Establishments with 50 to 99 employees	1	22	22	1 501	37 876	1 270	2 693	26 371	82 911	98 680	181 763	4 573
Establishments with 100 to 249 employees	3	36	36	5 505	129 622	4 557	9 264	92 799	332 742	361 406	697 604	35 138
Establishments with 250 to 499 employees	—	11	11	3 985	109 545	3 384	7 268	79 161	276 417	389 116	671 322	25 733
Establishments with 500 to 999 employees	—	7	7	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	8	49	—	299	6 709	250	441	4 509	21 242	23 998	45 223	1 875

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313249	Other knit fabric & lace mills	196	18 377	464 104	15 277	31 359	327 896	1 226 347	1 361 979	2 590 220	111 013
3132491	Warp knit fabrics greige goods	51	4 989	117 051	3 994	8 125	84 543	336 754	329 950	669 611	39 814
3132493	Finished warp knit fabrics	50	10 537	273 612	8 869	18 405	192 108	724 712	939 369	1 663 814	50 512
3132495	Lace and net goods, all leavers and nottingham lace machine products, including bobbinets and barmen laces	9	507	10 848	436	797	7 587	35 311	13 909	49 173	6 581
3132497	Contract and commission receipts for knitting only or knitting and finishing of warp knit fabrics	30	1 261	32 911	1 068	2 292	24 116	64 870	22 123	86 841	4 108
3132499	Knit products (made in knitting mills), nonapparel knit end products (except fabrics), including towels and washcloths	12	698	20 521	576	1 135	12 799	42 289	33 544	75 301	8 100

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313249	Other knit fabrics and lace	N	X	X	2 371 485	N	X	X	N
3132491	Warp knit fabrics greige goods @	N	X	X	633 654	N	X	X	454 342
31324911	Warp knit fabrics greige goods	N	X	X	633 654	N	X	X	N
3132491111	Warp knit fabrics greige goods, narrow fabrics (12 inches wide or less)	20	S	S	105 040	9	P25.7	14.2	30 393
3132491121	Warp knit fabrics greige goods, broad fabrics (more than 12 inches wide)	56	P535.1	268.0	528 614	52	313.2	139.5	423 949
3132491Y	Warp knit fabrics greige goods, nsk	N	X	X	-	N	X	X	N
3132491YWV	Warp knit fabrics greige goods, nsk	N	X	X	-	N	X	X	-
3132493	Finished warp knit fabrics, finished in knitting mill	N	X	X	1 477 212	N	X	X	N
31324931	Finished warp knit fabrics	N	X	X	1 472 085	N	X	X	N
3132493111	Finished warp knit fabrics, knit and finished in the same establishment, narrow (12 inches wide or less)	26	X	S	198 991	23	X	9443.8	125 322
3132493121	Finished warp knit fabrics, knit and finished in the same establishment, broad (more than 12 inches wide)	34	X	P476.3	1 273 094	38	X	316.3	726 818
3132493Y	Finished warp knit fabrics, nsk	N	X	X	5 127	N	X	X	N
3132493YWV	Finished warp knit fabrics, nsk	N	X	X	5 127	N	X	X	N
3132495	Lace and net goods, all leavers and nottingham lace machine products, including bobbins and barmen laces	N	X	X	43 182	N	X	X	55 669
31324951	Lace and net goods, all leavers and nottingham lace machine products, including bobbins and barmen laces	N	X	X	43 182	N	X	X	N
3132495100	Lace and net goods, all leavers and nottingham lace machine products, including bobbins and barmen laces	12	X	X	43 182	16	X	X	55 669
3132497	Contract and commission receipts for knitting only or knitting and finishing warp knit fabrics	N	X	X	82 093	N	X	X	N
31324971	Contract and commission receipts for knitting only or knitting and finishing of warp knit fabrics	N	X	X	80 807	N	X	X	N
3132497111	Contract and commission receipts for knitting only or knitting and finishing of narrow warp knit fabrics (12 inches wide or less)	6	X	X	6 181	5	X	X	2 355
3132497121	Contract and commission receipts for knitting only or knitting and finishing broad warp knit fabrics (more than 12 inches wide)	34	X	X	74 626	33	X	X	67 781
3132497Y	Contract and commission receipts for knitting only or knitting and finishing of warp knit fabrics, nsk	N	X	X	1 286	N	X	X	N
3132497YWV	Contract and commission receipts for knitting only or knitting and finishing of warp knit fabrics, nsk, for nonadministrative-record establishments	N	X	X	1 252	N	X	X	N
3132497YWY	Contract and commission receipts for knitting only or knitting and finishing of warp knit fabrics, nsk, for administrative-record establishments	N	X	X	34	10	X	X	4 354
3132499	Nonapparel knit end products made in knitting mills, including towels and washcloths	N	X	X	84 690	N	X	X	N
31324991	Knit products (made in knitting mills), nonapparel knit end products (except fabrics), including towels and washcloths	N	X	X	84 690	N	X	X	N
3132499100	Knit products (made in knitting mills), nonapparel knit end products (except fabrics), including towels and washcloths	16	X	X	84 690	N	X	X	N
313249W	Other knit fabrics and lace, nsk, total	N	X	X	50 654	N	X	X	N
313249WY	Other knit fabrics and lace, nsk, total	N	X	X	50 654	N	X	X	N
313249WYWV	Other knit fabrics and lace, nsk, for nonadministrative-record establishments	N	X	X	24 397	N	X	X	N
313249WYWY	Other knit fabrics and lace, nsk, for administrative-record establishments	N	X	X	26 257	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3132491	WARP KNIT FABRICS GREIGE GOODS @		
	United States	633 654	454 342
	Florida	17 062	N
	Georgia	59 960	N
	New Jersey	40 836	41 074
	New York	91 252	60 569
	North Carolina	114 572	107 293
	Rhode Island	14 773	N
	South Carolina	109 635	N
3132493	FINISHED WARP KNIT FABRICS, FINIHED IN KNITTING MILL		
	United States	1 477 212	N
	Connecticut	21 869	N
	New York	124 079	N
	North Carolina	760 046	N
	Pennsylvania	47 696	N
	Rhode Island	123 538	N
3132495	LACE AND NET GOODS, ALL LEAVERS AND NOTTINGHAM LACE MACHINE PRODUCTS, INCLUDING BOBBINETS AND BARMEN LACES		
	United States	43 182	55 669
	New Jersey	10 476	9 948
3132497	CONTRACT AND COMMISSION RECEIPTS FOR KNITTING ONLY OR KNITTING AND FINISHING WARP KNIT FABRICS		
	United States	82 093	N
	New Jersey	12 892	N
	New York	28 889	N
	North Carolina	30 521	N
3132499	NONAPPAREL KNIT END PRODUCTS MADE IN KNITTING MILLS, INCLUDING TOWELS AND WASHCLOTHS		
	United States	84 690	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313249	OTHER KNIT FABRIC & LACE MILLS				
31324000	Knit fabrics	mil lb..	S	45 021	N
32520003	Manmade fibers, staple, and tow	mil lb..	S	25 735	N
11192001	Raw cotton fibers	1,000 bales..	D	D	N
31311105	Carded cotton yarn	mil lb..	S	30 800	N
31311107	Combed cotton yarn	mil lb..	S	45 760	N
31311109	Spun rayon and acetate yarn	mil lb..	4.0	7 871	N
31311111	Spun nylon yarn	mil lb..	P27.8	71 788	N
31311113	Spun polyester yarns	mil lb..	S	144 205	N
32522101	Rayon, acetate, and/or lyocell filament yarns	mil lb..	S	25 087	N
32522211	Nylon filament yarn	mil lb..	58.7	155 827	N
32522221	Polyester filament yarn	mil lb..	P129.5	234 823	N
31311115	Acrylic yarns	mil lb..	D	D	N
31311001	All other yarns	mil lb..	S	167 470	N
00970099	All other materials and components, parts, containers, and supplies		X	191 527	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.		X	87 684	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313249 OTHER KNIT FABRIC AND LACE MILLS

This U.S. industry comprises establishments primarily engaged in one of the following: (1) knitting warp (i.e., flat) fabric; (2) knitting and finishing warp fabric; (3) manufacturing lace; or (4) manufacturing, dyeing, or finishing lace and lace goods. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

The data published with NAICS code 313249 include the following SIC industries:

2258 Lace and warp knit fabric mills (pt)

2259 Knitting mills, n.e.c. (pt)

3132491 Other Knit Fabric and Lace Mills - Manufacturer

Establishments primarily engaged in knitting warp (i.e., flat) fabric; knitting and finishing warp fabric; knitting, finishing, and further fabricating warp fabric products (except apparel); manufacturing lace; or manufacturing, dyeing, or finishing lace and lace goods.

3132492 Other Knit Fabric and Lace Mills - Jobber

Establishments engaged as other knit fabric and lace jobbers, who perform entrepreneurial functions of a manufacturer, including buying raw materials, designing and preparing samples, arranging for fabric to be made from their materials, and marketing finished fabric.

3132493 Other Knit Fabric and Lace Mills - Contractor

Establishments primarily engaged in knitting or finishing lace and other knit fabric or further fabricating lace and other knit fabric into products (except apparel) on a commission basis.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. **Products Statistics (Tables 6a and 6b)**

NAICS product code	Footnote
@3132491	For additional detail, see Current Industrial Report MA313K, Knit Fabric Production.

Part 2. **Materials Consumed by Kind (Table 7)**

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2221000	2221000
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2231000 pt	2231000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	2290000 pt	2290000 pt
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2211002	2211002
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2221002	2221002
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2231002 pt	2231002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	313210WYVW pt	2299002 pt	2299002 pt
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22411	22411
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211 pt	22996 pt	22996 pt
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241103
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211121	2241107	2241107
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211231	2241111	2241111
313111A	22996 pt	22996 pt	313210C10	2211H25	2211H25	3132211241	2241113	2241113
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241114
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211251 pt	2241117 pt	2241115
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211261	2241116	2241116
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2241119	2241119
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299613	2299601 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211371 pt	2299614	2299603 pt
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2241100	2241100
313111W pt	22810	22810	313210E	2221B	2221B	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213	22414	22414
313111YVW pt	2281000	2281000	313210G	2221C	2221C	3132213111	2241401	2241401
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213131	2241405	2241405
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132213YVW	2241400	2241400
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215	22415	22415
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	3132215100	2241500	2241500
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22410	22410
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221W pt	22990 pt	22990 pt
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2241000	2241000
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2299000 pt	2299000 pt
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2241002	2241002
3131123231	2282315	2282315	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220	23970	23970
3131125	22825	22825	313210N pt	22996 pt	22996 pt	3132220000	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397000 pt	2397000 pt
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132220YVW	2397002	2397002
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2299605	2299601 pt	3132301	22971	22971
3131127100 pt	2282911	2282911	313210N121 pt	2299608	2299603 pt	3132301111 pt	2297138 pt	2297131 pt
313112W	22820 pt	22820 pt	313210NYVW pt	2221H00	2221H00	3132301111 pt	2297138 pt	2297135 pt
313112WYVW	2282000 pt	2282000 pt	313210NYVW pt	2299600 pt	2299600 pt	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282002 pt	2282002 pt	313210P	2221J	2221J	3132301121 pt	2297132 pt	2297133 pt
3131130 pt	22840 pt	22840 pt	313210P111	2221J01	2221J01	3132301121 pt	2297132 pt	2297131 pt
3131130 pt	22990 pt	22990 pt	313210P121	2221J03	2221J03	3132301131 pt	2297124 pt	2297125
3131130171	2284081	2284010 pt	313210P131	2221J05	2221J05	3132301131 pt	2297124 pt	2297123
3131130181	2284083	2284023 pt	313210P141 pt	2221J12 pt	2221J07	3132301131 pt	2297124 pt	2297123
3131130191	2284085	2284031 pt	313210P141 pt	2221J12 pt	2221J11	3132301141 pt	2297134 pt	2297133 pt
3131130A1	2284087	2284033 pt	313210P151	2221J13	2221J13	3132301141 pt	2297134 pt	2297133 pt
3131130C1	2284061	2284061	313210P161	2221J15	2221J15	3132301151 pt	2297136 pt	2297135 pt
3131130D1	2299607	2299603 pt	313210P171	2221J19	2221J19	3132301151 pt	2297136 pt	2297135 pt
3131130YVW pt	2284000 pt	2284000 pt	313210P181	2221J23	2221J23	3132301161 pt	2297142 pt	2297133 pt
3131130YVW pt	2299000 pt	2299000 pt	313210P191	2221J25	2221J25	3132301161 pt	2297142 pt	2297135 pt
3131130YVW pt	2299600 pt	2299600 pt	313210P1B1	2221J27	2221J27	3132301YVW	2297100	2297100
3131130YVW pt	2299600 pt	2299600 pt	313210P1D1	2221J29	2221J29	3132303	22972	22972
3131130YVW pt	2284002 pt	2284002 pt	313210P1F1	2221J31	2221J31	3132303111	2297241	2297241
3131130YVW pt	2299002 pt	2299002 pt	313210PYVW	2221J00	2221J00	3132303121	2297203	2297203
3132101	2211B	2211B	313210Q	2221K	2221K	3132303131	2297205	2297205
3132101100	2211B00	2211B00	313210Q000	2221K00	2221K00	3132303141	2297251	2297251
3132103	2211C	2211C	313210R	2221M	2221M	3132303251	2297298	2297298
3132103100	2211C00	2211C00	313210R111 pt	2221M06 pt	2221M01 pt	3132303YVW	2297200	2297200
3132101	2211B	2211B	313210R111 pt	2221M06 pt	2221M03 pt	3132305	22991	22991
3132101100	2211B00	2211B00	313210R121 pt	2221M08 pt	2221M01 pt	3132305111	2299111	2299111
3132103	2211C	2211C	313210R131 pt	2221M08 pt	2221M03 pt	3132305221	2299135	2299135
3132103100	2211C00	2211C00	313210R141 pt	2221M16 pt	2221M01 pt	3132305331	2299147	2299147
3132101	2211B	2211B	313210RYVW	2221M00	2221M00	3132305YVW	2299100	2299100
3132101100	2211B00	2211B00	313210T	22312	22312	313230W pt	22970	22970
3132103	2211C	2211C	313210T100	2231200	2231200			
3132103100	2211C00	2211C00	313210U	22316 pt	22316 pt			
			313210U100 pt	2231611	2231600 pt			
			313210U100 pt	2231600 pt	2231600 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115351 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115791 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071 pt.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071 pt.....	2284043 pt.....
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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econgguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313311	Broadwoven fabric finishing mills	1 255	1 337	51 000	1 419 298	40 600	85 729	943 611	4 041 410	5 226 476	9 289 948	309 715
223120	Weaving & finishing mills, wool (pt)	N	32	1 192	25 828	989	2 005	18 825	41 754	51 112	93 439	11 806
226100	Finishing plants, cotton	N	441	21 125	530 982	17 321	35 054	381 821	1 425 828	1 546 657	2 953 259	110 295
226200	Finishing plants, synthetics	N	306	21 166	601 477	16 828	37 085	402 445	1 801 152	2 678 239	4 488 057	153 114
513105	Piece goods, notions, & other dry goods (pt)	N	558	7 517	261 011	5 462	11 585	140 520	772 676	950 468	1 755 193	34 500

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313311, BROADWOVEN FABRIC FINISHING MILLS												
United States	2	1 337	361	51 000	1 419 298	40 600	85 729	943 611	4 041 410	5 226 476	9 289 948	309 715
California	2	173	43	3 159	79 778	2 506	5 115	47 828	214 091	202 416	413 711	20 522
Georgia	-	52	24	4 286	99 949	3 691	7 667	76 474	390 504	324 885	687 644	38 227
Michigan	1	11	2	129	3 355	105	209	2 228	10 252	14 780	25 005	727
New Jersey	4	90	33	2 671	100 899	2 041	4 540	65 938	237 181	192 917	429 619	12 642
New York	3	284	64	5 506	210 217	3 803	8 137	96 627	586 071	814 757	1 429 028	28 702
North Carolina	1	114	40	7 264	186 763	5 812	13 254	134 335	468 052	852 189	1 323 516	69 686
Ohio	5	22	3	230	7 021	165	367	3 729	15 681	9 389	25 084	852
Pennsylvania	5	39	16	1 155	31 237	861	1 894	21 021	84 240	120 329	205 623	5 088
Rhode Island	2	21	10	1 411	44 693	1 004	2 226	28 314	84 655	58 650	146 922	4 778
South Carolina	-	75	43	12 342	321 719	10 204	21 448	239 372	858 050	1 670 382	2 544 230	68 748
Tennessee	8	24	6	609	9 064	509	884	6 828	17 991	10 885	28 561	2 934
Texas	7	36	7	2 531	46 294	2 080	3 739	35 410	95 115	74 006	166 946	7 088

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313311, BROADWOVEN FABRIC FINISHING MILLS		313311, BROADWOVEN FABRIC FINISHING MILLS	
— Con.		— Con.	
Companies ¹	number.. 1 255	3133111, Broadwoven fabric finishing mills—	
All establishments	number.. 1 337	manufacturer—Con.	
Establishments with 1 to 19 employees	number.. 976	Production workers, average for year	number.. 21 325
Establishments with 20 to 99 employees	number.. 229	Production workers on March 12	number.. 21 492
Establishments with 100 employees or more	number.. 132	Production workers on May 12	number.. 21 500
All employees	number.. 51 000	Production workers on August 12	number.. 21 266
Total compensation ²	\$1,000.. 1 722 636	Production workers on November 12	number.. 21 042
Annual payroll	\$1,000.. 1 419 298	Production-worker hours	1,000.. 45 860
Total fringe benefits	\$1,000.. 303 338	Production-worker wages	\$1,000.. 507 985
Production workers, average for year	number.. 40 600	Total cost of materials	\$1,000.. 3 583 274
Production workers on March 12	number.. 40 759	Cost of materials, parts, containers, etc., consumed	\$1,000.. 3 326 885
Production workers on May 12	number.. 40 895	Cost of resales	\$1,000.. 28 574
Production workers on August 12	number.. 40 466	Cost of fuels	\$1,000.. 108 681
Production workers on November 12	number.. 40 280	Cost of purchased electricity	\$1,000.. 68 858
Production-worker hours	1,000.. 85 729	Cost of contract work	\$1,000.. 50 276
Production-worker wages	\$1,000.. 943 611	Quantity of electricity purchased for heat and power	1,000 kWh.. 1 239 485
Total cost of materials	\$1,000.. 5 226 476	Quantity of electricity generated less sold for heat and power	1,000 kWh.. D
Cost of materials, parts, containers, etc., consumed	\$1,000.. 4 567 569	Total value of shipments	\$1,000.. 5 787 273
Cost of resales	\$1,000.. 117 265	Primary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 206 448	Secondary products value of shipments	\$1,000.. X
Cost of purchased electricity	\$1,000.. 144 526	Total miscellaneous receipts	\$1,000.. X
Cost of contract work	\$1,000.. 190 668	Value of resales	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 2 288 741	Contract receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. 173 205	Other miscellaneous receipts	\$1,000.. X
Total value of shipments	\$1,000.. 9 289 948	Primary products specialization ratio	percent.. X
Primary products value of shipments	\$1,000.. 8 897 003	Value of primary products shipments made in all industries	\$1,000.. X
Secondary products value of shipments	\$1,000.. 93 360	Value of primary products shipments made in this industry	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 299 585	Value of primary products shipments made in other industries	\$1,000.. X
Value of resales	\$1,000.. 122 861	Coverage ratio	percent.. X
Contract receipts	\$1,000.. 160 846	Value added	\$1,000.. 2 206 286
Other miscellaneous receipts	\$1,000.. 15 878	Total inventories, beginning of year	\$1,000.. 538 884
Primary products specialization ratio	percent.. 98	Finished goods inventories, beginning of year	\$1,000.. 216 075
Value of primary products shipments made in all industries	\$1,000.. 9 075 824	Work-in-process inventories, beginning of year	\$1,000.. 129 220
Value of primary products shipments made in this industry	\$1,000.. 8 897 003	Materials and supplies inventories, beginning of year	\$1,000.. 193 589
Value of primary products shipments made in other industries	\$1,000.. 178 821	Total inventories, end of year	\$1,000.. 567 055
Coverage ratio	percent.. 98	Finished goods inventories, end of year	\$1,000.. 211 570
Value added	\$1,000.. 4 041 410	Work-in-process inventories, end of year	\$1,000.. 136 012
Total inventories, beginning of year	\$1,000.. 924 933	Materials and supplies inventories, end of year	\$1,000.. 219 473
Finished goods inventories, beginning of year	\$1,000.. 346 646	Gross book value of total assets at beginning of year	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 239 817	Total capital expenditures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 338 470	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 946 709	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 330 341	Total retirements ²	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 234 060	Gross book value of total assets at end of year	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 382 308	Total depreciation during year ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 3 314 571	Total rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 309 715	Buildings and other structures rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 45 620	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 264 095	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Total retirements ²	\$1,000.. 91 091	Response coverage ratio ⁴	percent.. X
Gross book value of total assets at end of year	\$1,000.. 3 533 195	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Total depreciation during year ²	\$1,000.. 239 181	Response coverage ratio ⁴	percent.. X
Total rental payments ²	\$1,000.. 62 722	Cost of purchased communications services ³	\$1,000.. X
Buildings and other structures rental payments ²	\$1,000.. 28 321	Response coverage ratio ⁴	percent.. X
Machinery and equipment rental payments ²	\$1,000.. 34 401	Cost of purchased legal services ³	\$1,000.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 18 365	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 68	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 79 087	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 68	Cost of purchased advertising services ³	\$1,000.. X
Cost of purchased communications services ³	\$1,000.. 5 998	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 68	Cost of purchased software and other data processing services ³	\$1,000.. X
Cost of purchased legal services ³	\$1,000.. 3 975	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 68	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 3 185	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 68		
Cost of purchased advertising services ³	\$1,000.. 944		
Response coverage ratio ⁴	percent.. 68		
Cost of purchased software and other data processing services ³	\$1,000.. 3 090		
Response coverage ratio ⁴	percent.. 68		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 5 322		
Response coverage ratio ⁴	percent.. 68		
3133111, Broadwoven fabric finishing mills—		3133112, Broadwoven fabric finishing mills—	
manufacturer		converter	
Companies ¹	number.. N	Companies ¹	number.. N
All establishments	number.. 558	All establishments	number.. 558
Establishments with 1 to 19 employees	number.. 470	Establishments with 1 to 19 employees	number.. 470
Establishments with 20 to 99 employees	number.. 79	Establishments with 20 to 99 employees	number.. 79
Establishments with 100 employees or more	number.. 9	Establishments with 100 employees or more	number.. 9
All employees	number.. 7 516	All employees	number.. 7 516
Total compensation ²	\$1,000.. 318 486	Total compensation ²	\$1,000.. 318 486
Annual payroll	\$1,000.. 261 347	Annual payroll	\$1,000.. 261 347
Total fringe benefits	\$1,000.. 57 139	Total fringe benefits	\$1,000.. 57 139
Production workers, average for year	number.. 5 468	Production workers, average for year	number.. 5 468
Production workers on March 12	number.. 5 459	Production workers on March 12	number.. 5 459
Production workers on May 12	number.. 5 459	Production workers on May 12	number.. 5 459
Production workers on August 12	number.. 5 476	Production workers on August 12	number.. 5 476
Production workers on November 12	number.. 5 478	Production workers on November 12	number.. 5 478
Production-worker hours	1,000.. 11 599	Production-worker hours	1,000.. 11 599
Production-worker wages	\$1,000.. 140 909	Production-worker wages	\$1,000.. 140 909

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313311, BROADWOVEN FABRIC FINISHING MILLS —Con.		313311, BROADWOVEN FABRIC FINISHING MILLS —Con.	
3133112, Broadwoven fabric finishing mills— converter—Con.		3133113, Broadwoven fabric finishing mills— commission finisher	
Total cost of materials	\$1,000.. 951 590	Companies ¹	number.. N
Cost of materials, parts, containers, etc., consumed	\$1,000.. 694 524	All establishments	number.. 536
Cost of resales	\$1,000.. 82 816	Establishments with 1 to 19 employees	number.. 425
Cost of fuels	\$1,000.. 21 647	Establishments with 20 to 99 employees	number.. 66
Cost of purchased electricity	\$1,000.. 28 092	Establishments with 100 employees or more	number.. 45
Cost of contract work	\$1,000.. 124 511	All employees	number.. 17 081
Quantity of electricity purchased for heat and power	1,000 kWh.. 300 480	Total compensation ²	\$1,000.. 519 767
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Annual payroll	\$1,000.. 429 829
Total value of shipments	\$1,000.. 1 758 621	Total fringe benefits	\$1,000.. 89 938
Primary products value of shipments	\$1,000.. X	Production workers, average for year	number.. 13 807
Secondary products value of shipments	\$1,000.. X	Production workers on March 12	number.. 13 808
Total miscellaneous receipts	\$1,000.. X	Production workers on May 12	number.. 13 936
Value of resales	\$1,000.. X	Production workers on August 12	number.. 13 724
Contract receipts	\$1,000.. X	Production workers on November 12	number.. 13 760
Other miscellaneous receipts	\$1,000.. X	Production-worker hours	1,000.. 28 270
Primary products specialization ratio	percent.. X	Production-worker wages	\$1,000.. 294 717
Value of primary products shipments made in all industries	\$1,000.. X	Total cost of materials	\$1,000.. 691 612
Value of primary products shipments made in this industry	\$1,000.. X	Cost of materials, parts, containers, etc., consumed	\$1,000.. 546 160
Value of primary products shipments made in other industries	\$1,000.. X	Cost of resales	\$1,000.. 5 875
Coverage ratio	percent.. X	Cost of fuels	\$1,000.. 76 120
Value added	\$1,000.. 775 182	Cost of purchased electricity	\$1,000.. 47 576
Total inventories, beginning of year	\$1,000.. 236 781	Cost of contract work	\$1,000.. 15 881
Finished goods inventories, beginning of year	\$1,000.. 103 555	Quantity of electricity purchased for heat and power	1,000 kWh.. 748 776
Work-in-process inventories, beginning of year	\$1,000.. 80 688	Quantity of electricity generated less sold for heat and power	1,000 kWh.. D
Materials and supplies inventories, beginning of year	\$1,000.. 52 538	Total value of shipments	\$1,000.. 1 744 054
Total inventories, end of year	\$1,000.. 233 136	Primary products value of shipments	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 90 763	Secondary products value of shipments	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 61 631	Total miscellaneous receipts	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 80 742	Value of resales	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. X	Contract receipts	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. X	Other miscellaneous receipts	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. X	Primary products specialization ratio	percent.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. X	Value of primary products shipments made in all industries	\$1,000.. X
Total retirements ²	\$1,000.. X	Value of primary products shipments made in this industry	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. X	Value of primary products shipments made in other industries	\$1,000.. X
Total depreciation during year ²	\$1,000.. X	Coverage ratio	percent.. X
Total rental payments ²	\$1,000.. X	Value added	\$1,000.. 1 059 942
Buildings and other structures rental payments ²	\$1,000.. X	Total inventories, beginning of year	\$1,000.. 149 268
Machinery and equipment rental payments ²	\$1,000.. X	Finished goods inventories, beginning of year	\$1,000.. 27 016
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X	Work-in-process inventories, beginning of year	\$1,000.. 29 909
Response coverage ratio ⁴	percent.. X	Materials and supplies inventories, beginning of year	\$1,000.. 92 343
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X	Total inventories, end of year	\$1,000.. 146 518
Response coverage ratio ⁴	percent.. X	Finished goods inventories, end of year	\$1,000.. 28 008
Cost of purchased communications services ³	\$1,000.. X	Work-in-process inventories, end of year	\$1,000.. 36 417
Response coverage ratio ⁴	percent.. X	Materials and supplies inventories, end of year	\$1,000.. 82 093
Cost of purchased legal services ³	\$1,000.. X	Gross book value of total assets at beginning of year	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Total capital expenditures (new and used)	\$1,000.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. X	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Cost of purchased advertising services ³	\$1,000.. X	Total retirements ²	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Gross book value of total assets at end of year	\$1,000.. X
Cost of purchased software and other data processing services ³	\$1,000.. X	Total depreciation during year ²	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Total rental payments ²	\$1,000.. X
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X	Buildings and other structures rental payments ²	\$1,000.. X
Response coverage ratio ⁴	percent.. X	Machinery and equipment rental payments ²	\$1,000.. X
		Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased communications services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased legal services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased advertising services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased software and other data processing services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
		Response coverage ratio ⁴	percent.. X

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313311, BROADWOVEN FABRIC FINISHING MILLS												
All establishments	2	1 337	361	51 000	1 419 298	40 600	85 729	943 611	4 041 410	5 226 476	9 289 948	309 715
Establishments with 1 to 4 employees	3	570	—	1 143	35 163	932	2 610	23 000	136 115	128 405	267 610	16 791
Establishments with 5 to 9 employees	5	243	—	1 592	48 111	1 228	2 430	27 390	135 554	165 587	303 734	8 197
Establishments with 10 to 19 employees	3	163	—	2 221	67 762	1 574	3 066	36 957	225 959	269 785	505 436	10 639
Establishments with 20 to 49 employees	2	147	147	4 411	129 018	3 232	6 394	71 517	392 605	454 918	858 698	22 032
Establishments with 50 to 99 employees	3	82	82	5 874	174 663	4 450	9 292	107 949	447 133	467 395	917 126	20 219
Establishments with 100 to 249 employees	2	90	90	14 657	406 485	11 405	24 457	258 702	1 059 160	1 157 754	2 230 603	102 626
Establishments with 250 to 499 employees	1	28	28	9 473	281 426	7 634	16 569	200 611	918 725	867 937	1 789 980	54 599
Establishments with 500 to 999 employees	—	8	8	5 350	123 220	4 691	9 090	98 838	317 174	553 079	848 746	35 295
Establishments with 1,000 to 2,499 employees	—	6	6	6 279	153 450	5 454	11 821	118 647	408 985	1 161 616	1 568 015	39 317
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	689	—	3 457	78 828	2 850	5 221	52 146	174 412	126 669	300 237	14 105

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313311	Broadwoven fabric finishing mills	1 337	51 000	1 419 298	40 600	85 729	943 611	4 041 410	5 226 476	9 289 948	309 715
3133111	Finished cotton broadwoven fabrics (not finished in weaving mills)	48	6 895	196 924	5 602	12 005	142 110	643 129	1 003 060	1 638 211	38 920
3133113	Job or commission finishing of cotton broadwoven fabrics	76	10 682	280 104	8 681	18 051	198 673	698 472	545 905	1 232 953	51 624
3133115	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills)	94	9 631	270 160	7 658	17 197	182 140	1 032 021	2 193 223	3 237 976	97 588
3133117	Job or commission finishing of manmade fiber and silk broadwoven fabrics	68	9 350	284 296	7 297	16 250	187 882	698 379	498 552	1 192 626	46 271
3133119	Finished broadwoven wool fabrics and felts (not finished in weaving mills)	3	328	8 474	257	569	5 553	27 643	25 896	54 266	D

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313311	Finished broadwoven fabrics	N	X	X	9 075 824	N	N	N	N
3133111	Finished cotton broadwoven fabrics (not finished in weaving mills)	N	X	X	1 855 505	N	N	N	N
31331111	Finished cotton broadwoven fabrics (not finished in weaving mills)	N	X	X	1 755 325	N	N	N	N
3133111111	Finished cotton broadwoven print cloth (not finished in weaving mills) \$	24	X	S	589 557	N	N	N	N
3133111121	Finished cotton broadwoven poplin and broadcloth (not finished in weaving mills) \$	6	X	D	D	N	N	N	N
3133111131	Finished cotton broadwoven sheeting, plain weave, including bedsheets and osnaburgs (not finished in weaving mills) \$	11	X	932.6	404 192	N	N	N	N
3133111141	Finished cotton broadwoven tobacco, cheese, and bandage cloth (not finished in weaving mills) \$	1	X	D	D	N	N	N	N
3133111151	Finished cotton broadwoven fabrics, other plain weave fabrics (except pile), including lawns, voiles, batistes, and duck (not finished in weaving mills) \$	8	X	14.8	20 149	N	N	N	N
3133111161	Finished cotton broadwoven twill weave fabrics (not finished in weaving mills) \$	11	X	238.2	328 855	N	N	N	N
3133111171	Finished cotton broadwoven fabrics, weaves other than plain, twill, and pile, including sateens, oxfords, table damask, jacquard, and dobby shirting (not finished in weaving mills) \$	15	X	77.5	113 238	N	N	N	N
3133111181	Finished cotton broadwoven pile fabrics, including velvets, plushes, corduroy, terry toweling, and terry cloth (not finished in weaving mills) \$	6	X	D	D	N	N	N	N
3133111Y	Finished cotton broadwoven fabrics (not finished in weaving mills), nsk	N	X	X	100 180	N	N	N	N
3133111YWV	Finished cotton broadwoven fabrics (not finished in weaving mills), nsk	N	X	X	100 180	N	N	N	N
3133113	Job or commission finishing of cotton broadwoven fabrics	N	X	X	1 314 750	N	X	X	866 451
31331131	Job or commission finishing of cotton broadwoven print cloth	N	X	X	455 222	N	N	N	N
3133113111	Job or commission finishing of cotton broadwoven print cloth	45	X	\$75.5	455 222	38	\$688.7	\$676.5	283 836
31331132	Job or commission finishing of cotton broadwoven plain weave fabrics (except print cloth)	N	X	X	264 715	N	N	N	N
3133113221	Job or commission finishing of cotton broadwoven poplin and broadcloth fabrics	24	X	\$173.9	70 841	25	195.6	193.9	64 961
3133113231	Job or commission finishing of cotton broadwoven sheeting fabrics, plain weave, including bedsheets and osnaburgs	24	X	\$171.0	102 219	26	\$366.2	362.8	113 068
3133113241	Job or commission finishing of cotton broadwoven tobacco, cheese, and bandage cloth	3	X	3.3	781	6	27.2	27.1	13 048
3133113251	Job or commission finishing of cotton broadwoven duck fabrics	20	X	\$94.4	57 509	16	48.1	47.7	27 075
3133113261	Job or commission finishing of cotton broadwoven plain weave fabrics, other (except pile) including lawns, voiles, and batistes	8	X	S	33 365	7	10.3	10.1	7 186
31331133	Job or commission finishing of cotton broadwoven twill weave fabrics (except pile)	N	X	X	379 474	N	N	N	N
3133113371	Job or commission finishing of cotton broadwoven twill weave fabrics (except pile)	26	X	\$446.6	379 474	22	\$475.0	\$474.3	183 352
31331134	Job or commission finishing of cotton broadwoven fabrics (except plain weave and twill weave)	N	X	X	69 231	N	N	N	N
3133113481	Job or commission finishing of cotton broadwoven sateen fabrics	13	X	\$29.9	21 838	14	48.2	47.3	31 406
3133113491	Job or commission finishing of cotton broadwoven fabrics (except plain weave, twill weave, sateens, and pile), including oxfords, table damask, jacquard and dobby shirting, and birdseye diaper cloth	14	X	\$36.3	28 443	16	89.8	87.6	52 610
31331134B1	Job or commission finishing of cotton broadwoven pile fabrics (velvets, plushes, corduroy, terry toweling, terry cloth, and others)	6	X	\$49.3	18 950	9	63.4	63.4	22 793
3133113Y	Job or commission finishing of cotton broadwoven fabrics, nsk	N	X	X	146 108	N	N	N	N
3133113YWV	Job or commission finishing of cotton broadwoven fabrics, nsk	N	X	X	146 108	N	X	X	67 116

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313311	Finished broadwoven fabrics— Con.								
3133115	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills)	N	X	X	2 907 964	N	N	N	N
31331151	Finished manmade fiber broadwoven print cloth (not finished in weaving mills), of 85 percent or more spun yarns	N	X	X	102 029	N	N	N	N
3133115111	Finished manmade fiber broadwoven print cloth, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	9	X	90.9	102 029	N	N	N	N
31331152	Finished manmade fiber broadwoven fabrics, plain weave except print cloth, (not finished in weaving mills), of 85 percent or more spun yarns	N	X	X	666 674	N	N	N	N
3133115221	Finished manmade fiber broadwoven poplin and broadcloth, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	4	X	D	D	N	N	N	N
3133115231	Finished manmade fiber broadwoven sheeting, plain weave, including bedsheets and osnaburgs, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	3	X	381.3	507 868	N	N	N	N
3133115241	Finished manmade fiber broadwoven fabrics, other plain weave fabrics (except pile), including lawns, voiles, and batistes, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	6	X	D	D	N	N	N	N
31331153	Finished manmade fiber broadwoven twill weave fabrics (not finished in weaving mills), of 85 percent or more spun yarns	N	X	X	160 830	N	N	N	N
3133115351	Finished manmade fiber broadwoven twill weave fabrics, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	5	X	S	160 830	N	N	N	N
31331154	Finished manmade fiber broadwoven sateen fabrics (not finished in weaving mills), of 85 percent or more spun yarns	N	X	X	56 224	N	N	N	N
3133115461	Finished manmade fiber broadwoven sateen fabrics, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	5	X	29.5	56 224	N	N	N	N
31331155	Finished manmade fiber broadwoven fabrics (not finished in weaving mills), of 85 percent or more spun yarns, weaves other than plain, twill, sateens, and pile	N	X	X	582 060	N	N	N	N
3133115571	Finished manmade fiber broadwoven fabrics, weaves other than plain, twill, sateens, and pile, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	51	X	S	582 060	N	N	N	N
31331156	Finished manmade fiber broadwoven pile fabrics, including velvets, plushes, and corduroys (not finished in weaving mills), of 85 percent or more spun yarns	N	X	X	92 872	N	N	N	N
3133115681	Finished manmade fiber broadwoven pile fabrics, including velvets, plushes, and corduroys, of 85 percent or more spun yarns (not finished in weaving mills) \$..... mil fin sq yd..	3	X	74.3	92 872	N	N	N	N
31331157	Finished broadwoven fabrics, chiefly polyester (not finished in weaving mills), of 85 percent or more filament yarns	N	X	X	684 889	N	N	N	N
3133115791	Finished polyester broadwoven fabrics, of 85 percent or more filament yarns (not finished in weaving mills) \$..... mil fin sq yd..	19	X	467.4	684 889	N	N	N	N
31331158	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills), of 85 percent or more filament yarns, except polyester, and other fabrics including spun-filament yarn combinations	N	X	X	458 309	N	N	N	N
31331158B1	Finished rayon, acetate, and/or lyocell broadwoven fabrics, of 85 percent or more filament yarns (not finished in weaving mills) \$..... mil fin sq yd..	10	X	46.1	98 903	N	N	N	N
31331158D1	Finished broadwoven fabrics of manmade fibers other than rayon, acetate, lyocell and polyester, of 85 percent or more filament yarns (not finished in weaving mills) \$..... mil fin sq yd..	12	X	D	D	N	N	N	N
31331158F1	Other finished broadwoven fabrics, including combinations of spun and filament yarns, blends with wool, silk, and blends with silk (not finished in weaving mills) \$..... mil fin sq yd..	3	X	D	D	N	N	N	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313311	Finished broadwoven fabrics— Con.								
3133115	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills)—Con.								
3133115Y	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills), nsk	N	X	X	104 077	N	N	N	N
3133115YWV	Finished manmade fiber and silk broadwoven fabrics (not finished in weaving mills), nsk	N	X	X	104 077	N	N	N	N
3133117	Job or commission finishing of manmade fiber and silk broadwoven fabrics	N	X	X	1 157 937	N	X	X	1 282 120
31331171	Job or commission finishing of manmade fiber broadwoven print cloth of 85 percent or more spun yarns	N	X	X	182 455	N	N	N	N
3133117111	Job or commission finishing of manmade fiber broadwoven print cloth of 85 percent or more spun yarns	25	X	296.9	182 455	33	P671.0	672.8	341 367
31331172	Job or commission finishing of manmade fiber broadwoven fabrics of 85 percent or more spun yarns (except print cloth)	N	X	X	374 492	N	N	N	N
3133117221	Job or commission finishing of manmade fiber broadwoven poplin and broadcloth of 85 percent or more spun yarns	10	X	P74.6	34 661	10	P110.1	109.2	51 984
3133117231	Job or commission finishing of manmade fiber broadwoven plain weave sheeting, including bedsheeting and osnaburgs, of 85 percent or more spun yarns	4	X	S	24 560	11	176.5	176.4	87 098
3133117241	Job or commission finishing of manmade fiber broadwoven fabrics of 85 percent or more spun yarns, plain weave (except print cloth, poplin, broadcloth, and sheeting)	9	X	320.5	103 184	N	N	N	N
3133117251	Job or commission finishing of manmade fiber broadwoven fabrics, twill weave, of 85 percent or more spun yarns	7	X	S	21 608	9	P80.7	80.1	42 789
3133117261	Job or commission finishing of manmade fiber broadwoven fabrics, of 85 percent or more spun yarn, except plain weave, twill weave, and pile fabrics	20	X	S	159 409	N	N	N	N
3133117271	Job or commission finishing of manmade fiber broadwoven pile fabrics of 85 percent or more spun yarns	6	X	S	31 070	4	D	D	D
31331173	Job or commission finishing of broadwoven fabrics, chiefly polyester of 85 percent or more filament yarns	N	X	X	182 012	N	N	N	N
3133117381	Job or commission finishing of broadwoven fabrics, chiefly polyester of 85 percent or more filament yarns	26	X	P306.8	182 012	36	308.3	307.9	190 230
31331174	Job or commission finishing of broadwoven fabrics, chiefly rayon, acetate, and/or lyocell, of 85 percent or more filament yarns	N	X	X	277 851	N	N	N	N
3133117491	Job or commission finishing of broadwoven fabrics, chiefly rayon, acetate, and/or lyocell, of 85 percent or more filament yarns	23	X	P575.6	277 851	29	P594.5	586.8	287 132
31331175	Job or commission finishing of manmade fiber and silk broadwoven fabrics, of 85 percent or more filament yarns except rayon, acetate, lyocell, and polyester; and combinations of spun-filament yarns	N	X	X	112 246	N	N	N	N
31331175B1	Job or commission finishing of manmade fiber broadwoven fabrics, of 85 percent or more filament yarns, except rayon, acetate, lyocell, and polyester	10	X	S	85 896	15	118.9	117.5	81 517
31331175D1	Job or commission finishing of manmade fiber and silk broadwoven fabrics, other fabrics, including combinations of spun and filament yarns, blends with wool, silk, and blends with silk	6	X	S	26 350	16	S	P54.7	21 001
3133117Y	Job or commission finishing of manmade fiber and silk broadwoven fabrics, nsk	N	X	X	28 881	N	N	N	N
3133117YWV	Job or commission finishing of manmade fiber and silk broadwoven fabrics, nsk	N	X	X	28 881	N	X	X	48 078
3133119	Finished broadwoven wool fabrics and felts (not finished in weaving mill)	N	X	X	41 454	N	N	N	N
31331191	Finished broadwoven wool fabrics and felts (not finished in weaving mill)	N	X	X	41 454	N	N	N	N
3133119100	Finished broadwoven wool fabrics and felts (not finished in weaving mill)	7	X	X	41 454	N	N	N	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313311	Finished broadwoven fabrics— Con.								
313311W	Finished broadwoven fabrics, nsk, total	N	X	X	1 798 214	N	N	N	N
313311WY	Finished broadwoven fabrics, nsk, total	N	X	X	1 798 214	N	N	N	N
313311WYWW	Finished broadwoven fabrics, nsk, for nonadministrative-record establishments	N	X	X	1 507 451	N	N	N	N
313311WYWY	Finished broadwoven fabrics, nsk, for administrative-record establishments	N	X	X	290 763	N	N	N	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3133111	FINISHED COTTON BROADWOVEN FABRICS (NOT FINISHED IN WEAVING MILLS)		
	United States	1 855 505	N
	California	42 736	N
	Georgia	243 559	N
	New York	78 859	N
	North Carolina	255 999	N
	South Carolina	682 794	N
3133113	JOB OR COMMISSION FINISHING OF COTTON BROADWOVEN FABRICS		
	United States	1 314 750	866 451
	Alabama	43 105	28 561
	California	55 526	21 799
	Connecticut	12 080	12 343
	Georgia	240 343	87 606
	Massachusetts	46 551	39 843
	New Jersey	70 628	21 517
	New York	71 065	27 635
	North Carolina	90 368	160 892
	Pennsylvania	8 450	23 434
	Rhode Island	36 964	43 109
	South Carolina	468 585	290 769
3133115	FINISHED MANMADE FIBER AND SILK BROADWOVEN FABRICS (NOT FINISHED IN WEAVING MILLS)		
	United States	2 907 964	N
	California	87 502	N
	Connecticut	53 622	N
	Georgia	43 880	N
	Massachusetts	77 688	N
	New Jersey	22 865	N
	New York	327 019	N
	North Carolina	637 913	N
	Pennsylvania	24 970	N
	South Carolina	1 044 155	N
3133117	JOB OR COMMISSION FINISHING OF MANMADE FIBER AND SILK BROADWOVEN FABRICS		
	United States	1 157 937	1 282 120
	California	19 574	26 074
	Georgia	134 751	121 709
	New Jersey	217 678	224 327
	New York	17 265	24 051
	North Carolina	153 707	193 433
	Pennsylvania	44 772	37 404
	South Carolina	278 726	271 609
3133119	FINISHED BROADWOVEN WOOL FABRICS AND FELTS (NOT FINISHED IN WEAVING MILL)		
	United States	41 454	N

See footnotes at end of table.

Table 6b. **Product Class Shipments for Selected States: 1997 and 1992—Con.**

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. **Materials Consumed by Kind: 1997 and 1992**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313311	BROADWOVEN FABRIC FINISHING MILLS				
31311101	Spun yarn, all fibers mil lb.	569.5	132 602	N	N
31321027	Broadwoven fabrics mil sq yd.	6 149.5	2 768 382	N	N
32513003	Dyes, lakes, and toners	X	623 158	X	N
31324000	Knit fabrics mil lb.	S	30 623	N	N
00970099	All other materials and components, parts, containers, and supplies	X	433 293	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	579 511	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313311 BROADWOVEN FABRIC FINISHING MILLS

This U.S. industry comprises (1) establishments primarily engaged in finishing broadwoven fabrics and (2) establishments of converters who buy broadwoven fabrics in the grey, have them finished on contract, and sell at wholesale. Finishing operations include bleaching, dyeing, printing (roller, screen, flock, plisse), and other mechanical finishing, such as preshrinking, shrinking, sponging, calendaring, mercerizing and napping.

The data published with NAICS code 313311 include the following SIC industries:

- 2231 Weaving and finishing mills, wool (pt)
- 2261 Finishing plants, cotton
- 2262 Finishing plants, synthetics
- 5131 Piece goods, notions and other dry goods (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 313311 do not include

establishments primarily engaged in the sponging of fabric for tailors and dressmakers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

3133111 Broadwoven Fabric Finishing Mills - Manufacturer

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of purchased broadwoven fabrics.

3133112 Broadwoven Fabric Finishing Mills - Converter

Establishments engaged as converters who buy broadwoven fabrics in the grey, have them finished on contract, and sell at wholesale.

3133113 Broadwoven Fabric Finishing Mills - Commission Finisher

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of broadwoven fabrics on a commission basis.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Part 1. Products Statistics (Tables 6a and 6b)—Con.

NAICS product code	Footnote
\$ 31331158F1	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F09	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221J03	2221J03	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221J05	2221J05	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210N121 pt	2221J12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N121 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297121
3131130 pt	22840 pt	22840 pt	313210N151	2221J13	2221J13	3132301131 pt	2297124 pt	2297123
3131130 pt	22990 pt	22990 pt	313210N161	2221J15	2221J15	3132301131 pt	2297124 pt	2297125
3131130 pt	22996 pt	22996 pt	313210N171	2221J19	2221J19	3132301141 pt	2297134 pt	2297133 pt
3131130111	2284010	2284010 pt	313210N181	2221J23	2221J23	3132301141 pt	2297134 pt	2297135 pt
3131130121	2284023	2284023 pt	313210N191	2221J25	2221J25	3132301151 pt	2297136 pt	2297131 pt
3131130131 pt	2284045 pt	2284041	313210N1B1	2221J27	2221J27	3132301151 pt	2297136 pt	2297133 pt
3131130131 pt	2284045 pt	2284051 pt	313210N1D1	2221J29	2221J29	3132301151 pt	2297136 pt	2297135 pt
3131130141 pt	2284047 pt	2284043 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297131 pt
3131130141 pt	2284047 pt	2284051 pt	313210N1F1	2221J31	2221J31	3132301161 pt	2297142 pt	2297133 pt
3131130151 pt	2284035 pt	2284031 pt	313210N1YVW	2221J00	2221J00	3132301YVW	2297100	2297100
3131130151 pt	2284035 pt	2284051 pt	313210Q	2221K	2221K	3132303	22972	22972
3131130161 pt	2284037 pt	2284033 pt	313210Q000	2221K00	2221K00	3132303111	2297241	2297241
3131130161 pt	2284037 pt	2284051 pt	313210R	2221M	2221M	3132303121	2297203	2297203
3131130171	2284081	2284010 pt	313210R111 pt	2221M06 pt	2221M01 pt	3132303131	2297205	2297205
3131130181	2284083	2284023 pt	313210R111 pt	2221M06 pt	2221M03 pt	3132303141	2297251	2297251
3131130191	2284085	2284031 pt	313210R121 pt	2221M08 pt	2221M01 pt	3132303251	2297298	2297298
31311301A1	2284087	2284033 pt	313210R131 pt	2221M08 pt	2221M03 pt	3132303YVW	2297200	2297200
31311301C1	2284061	2284061	313210R131 pt	2221M11 pt	2221M01 pt	3132305	22991	22991
31311301D1	2299607	2299603 pt	313210R141 pt	2221M16 pt	2221M01 pt	3132305111	2299111	2299111
3131130YVW pt	2284000 pt	2284000 pt	313210R141 pt	2221M16 pt	2221M03 pt	3132305221	2299135	2299135
3131130YVW pt	2299000 pt	2299000 pt	313210RYVW	2221M00	2221M00	3132305331	2299147	2299147
3131130YVW pt	2299600 pt	2299600 pt	313210T	22312	22312	3132305YVW	2299100	2299100
3131130YVW pt	2284002 pt	2284002 pt	313210T100	2231200	2231200	313230W pt	22970	22970
3131130YVW pt	2299002 pt	2299002 pt	313210U	22316 pt	22316 pt			
3132101	2211B	2211B	313210U100 pt	2231611	2231600 pt			
3132101100	2211B00	2211B00	313210U100 pt	2231600 pt	2231600 pt			
3132103	2211C	2211C						
3132103100	2211C00	2211C00						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
313230W pt.....	22990 pt.....	22990 pt.....	3133115 pt.....	51318.....	51310 pt.....	3133120 pt.....	51319.....	51310 pt.....
313230WYWW pt.....	2297000.....	2297000.....	3133115111 pt.....	2262801.....	2262801.....	3133120111.....	2269012.....	2269012.....
313230WYWW pt.....	2299000 pt.....	2299000 pt.....	3133115111 pt.....	5131801.....	5131000 pt.....	3133120121.....	2269021.....	2269021.....
313230WYWW pt.....	2297002.....	2297002.....	3133115221 pt.....	2262803.....	2262803.....	3133120131.....	2269023.....	2269023.....
313230WYWW pt.....	2299002 pt.....	2299002 pt.....	3133115221 pt.....	5131803.....	5131000 pt.....	3133120141.....	2269026.....	2269026.....
			3133115231 pt.....	2262805.....	2262805.....	3133120151.....	2269030.....	2269030.....
3132411.....	22571.....	22571.....	3133115231 pt.....	5131805.....	5131000 pt.....	3133120161.....	2269031.....	2269031.....
3132411111.....	2257110.....	2257110.....	3133115241 pt.....	2262812 pt.....	2262807.....	3133120171.....	2269033.....	2269033.....
3132411221.....	2257120.....	2257120.....	3133115241 pt.....	2262812 pt.....	2262811.....	3133120181.....	2269034.....	2269034.....
3132411YVW.....	2257100.....	2257100.....	3133115241 pt.....	5131812.....	5131000 pt.....	3133120191.....	2269039.....	2269039.....
			3133115241 pt.....	2262813.....	2262813.....	31331201B1.....	2269042.....	2269042.....
3132413.....	22573 pt.....	22573 pt.....	3133115351 pt.....	5131813.....	5131000 pt.....	31331201D1.....	2269061.....	2269061.....
3132413111.....	2257310.....	2257310.....	3133115461 pt.....	2262815.....	2262815.....	31331201F1.....	2269071.....	2269071.....
3132413121.....	2257320.....	2257320.....	3133115461 pt.....	5131815.....	5131000 pt.....	31331201F1 pt.....	5131900.....	5131000 pt.....
3132413YVW.....	2257300 pt.....	2257300 pt.....	3133115571 pt.....	2262819.....	2262819.....	31331201H1.....	2231100.....	2231100.....
			3133115571 pt.....	5131819.....	5131000 pt.....	31331201H1 pt.....	2282241.....	2282241.....
3132415.....	22579 pt.....	22579 pt.....	3133115681 pt.....	2262823.....	2262823.....	31331201J1.....	2231793.....	2231793.....
3132415111.....	2257915.....	2257915.....	3133115681 pt.....	5131823.....	5131000 pt.....	31331201L1 pt.....	2282221.....	2282221.....
3132415121.....	2257917.....	2257917.....	3133115691 pt.....	2262827.....	2262827.....	31331201L1 pt.....	2284071.....	2284033 pt.....
3132415YVW.....	2257900.....	2257900.....	3133115791 pt.....	5131827.....	5131000 pt.....	31331201L1 pt.....	2284071.....	2284043 pt.....
3132415YVW.....	2257902.....	2257902.....	313311581 pt.....	2262825.....	2262825.....	31331201N1.....	2282951.....	2282951.....
			313311581 pt.....	5131825.....	5131000 pt.....	31331201N1 pt.....	2299604.....	2299601 pt.....
313241W.....	22570 pt.....	22570 pt.....	31331158D1 pt.....	2262829.....	2262829.....	31331201P1.....	2299609.....	2299603 pt.....
313241WYVW.....	2257000 pt.....	2257000 pt.....	31331158D1 pt.....	5131829.....	5131000 pt.....	31331202M1.....	2269076.....	2269000 pt.....
313241WYVW.....	2257002 pt.....	2257002 pt.....	31331158F1 pt.....	2262831.....	2262831.....	3133120311.....	2257340.....	2257340.....
			31331158F1 pt.....	5131831.....	5131000 pt.....	3133120411.....	2258440.....	2258440.....
3132491.....	22581.....	22581.....	3133115YVW pt.....	2262800.....	2262800.....	3133120511.....	2257330.....	2257330.....
3132491111.....	2258110.....	2258110.....	3133115YVW pt.....	5131800.....	5131000 pt.....	3133120521.....	2258430.....	2258430.....
3132491121.....	2258120.....	2258120.....				3133120611.....	2257960.....	2257913 pt.....
3132491YVW.....	2258100.....	2258100.....	3133117.....	22629.....	22629.....	3133120621.....	2257950.....	2257913 pt.....
			3133117111.....	2262901.....	2262901.....	3133120711.....	2258960.....	2258915 pt.....
3132493.....	22584 pt.....	22584 pt.....	3133117221.....	2262903.....	2262903.....			
3132493111.....	2258410.....	2258410.....	3133117231.....	2262905.....	2262905.....	3133120721.....	2258950.....	2258915 pt.....
3132493121.....	2258420.....	2258420.....	3133117241 pt.....	2262912.....	2262907.....	3133120731.....	2258921.....	2258921.....
3132493YVW.....	2258400 pt.....	2258400 pt.....	3133117241 pt.....	2262912 pt.....	2262911.....	3133120YVW pt.....	2231000 pt.....	2231000 pt.....
			3133117251.....	2262913.....	2262913.....	3133120YVW pt.....	2231700 pt.....	2231700 pt.....
3132495.....	22585.....	22585.....	3133117261 pt.....	2262918.....	2262915.....	3133120YVW pt.....	2257000 pt.....	2257000 pt.....
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			3133117271.....	2262923.....	2262923.....	3133120YVW pt.....	2258000 pt.....	2258000 pt.....
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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Companies ¹	All establishments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313312	Textile & fabric finishing mills	347	383	29 354	746 156	24 751	52 027	507 693	1 939 111	2 393 400	4 313 586	278 673
223130	Weaving & finishing mills, wool (pt)	N	6	148	3 349	128	294	2 502	6 968	8 506	15 444	D
225720	Circular knit fabric mills (pt)	N	103	8 850	251 712	7 412	15 600	161 407	746 934	1 045 778	1 780 051	195 056
225820	Lace & warp knit fabric mills (pt)	N	89	5 910	157 077	4 756	10 580	103 898	372 218	311 973	683 488	24 633
226900	Finishing plants, n.e.c.	N	155	11 239	254 617	9 578	19 378	184 575	540 045	672 586	1 214 911	44 385
228220	Yarn throwing & winding mills (pt)	N	11	1 387	35 313	1 267	2 612	27 254	66 047	114 042	180 161	5 553
228420	Thread mills (pt)	N	17	D	D	D	D	D	D	D	D	D
229960	Textile goods, n.e.c. (pt)	N	2	D	D	D	D	D	D	D	D	D
513110	Piece goods, notions, & other dry goods (pt)	N	-	-	-	-	-	-	-	-	-	-

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
	E ¹	Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
313312, TEXTILE & FABRIC FINISHING MILLS												
United States	2	383	206	29 354	746 156	24 751	52 027	507 693	1 939 111	2 393 400	4 313 586	278 673
California	2	51	19	1 965	48 969	1 667	3 615	35 826	104 911	103 969	204 661	14 001
Georgia	-	26	18	3 395	73 456	2 948	6 063	56 779	147 346	202 493	350 701	8 506
New Jersey	6	38	15	1 286	43 303	1 042	2 140	25 193	76 806	48 203	124 833	4 283
New York	2	70	20	1 503	51 799	1 036	2 156	23 995	164 217	176 754	343 840	7 077
North Carolina	1	75	61	10 639	255 869	9 033	19 832	183 127	645 022	1 038 915	1 680 801	48 746
Pennsylvania	7	27	18	1 479	38 565	1 237	2 709	26 426	143 335	74 099	216 467	7 091
Rhode Island	-	8	5	321	9 708	215	429	5 603	66 007	72 915	138 937	2 820
South Carolina	-	17	12	922	24 087	795	1 597	17 325	47 200	49 547	96 581	3 666
Tennessee	2	10	10	1 363	27 664	1 195	2 391	20 725	71 679	64 292	137 137	4 481
Texas	-	5	3	654	11 183	609	1 193	9 957	42 429	7 623	50 208	896

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313312, TEXTILE & FABRIC FINISHING MILLS			
Companies ¹	number.. 347	313312, TEXTILE & FABRIC FINISHING MILLS— Con.	
All establishments	number.. 383	3133121, Textile & fabric finishing mills— manufacturer—Con.	
Establishments with 1 to 19 employees	number.. 177	Production workers, average for year	number.. 18 753
Establishments with 20 to 99 employees	number.. 124	Production workers on March 12	number.. 18 893
Establishments with 100 employees or more	number.. 82	Production workers on May 12	number.. 19 035
All employees	number.. 29 354	Production workers on August 12	number.. 18 728
Total compensation ²	\$1,000.. 906 083	Production workers on November 12	number.. 18 356
Annual payroll	\$1,000.. 746 156	Production-worker hours	1,000.. 39 219
Total fringe benefits	\$1,000.. 159 927	Production-worker wages	\$1,000.. 385 260
Production workers, average for year	number.. 24 751	Total cost of materials	\$1,000.. 2 012 096
Production workers on March 12	number.. 24 889	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 855 816
Production workers on May 12	number.. 25 034	Cost of resales	\$1,000.. 10 535
Production workers on August 12	number.. 24 706	Cost of fuels	\$1,000.. 54 735
Production workers on November 12	number.. 24 375	Cost of purchased electricity	\$1,000.. 56 873
Production-worker hours	1,000.. 52 027	Cost of contract work	\$1,000.. 34 137
Production-worker wages	\$1,000.. 507 693	Quantity of electricity purchased for heat and power	1,000 kWh.. 1 123 225
Total cost of materials	\$1,000.. 2 393 400	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 171 270	Total value of shipments	\$1,000.. 3 397 189
Cost of resales	\$1,000.. 11 988	Primary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 79 725	Secondary products value of shipments	\$1,000.. X
Cost of purchased electricity	\$1,000.. 77 335	Total miscellaneous receipts	\$1,000.. X
Cost of contract work	\$1,000.. 53 082	Value of resales	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 407 756	Contract receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Other miscellaneous receipts	\$1,000.. X
Total value of shipments	\$1,000.. 4 313 586	Primary products specialization ratio	percent.. X
Primary products value of shipments	\$1,000.. 4 038 130	Value of primary products shipments made in all industries	\$1,000.. X
Secondary products value of shipments	\$1,000.. 153 878	Value of primary products shipments made in this industry	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 121 578	Value of primary products shipments made in other industries	\$1,000.. X
Value of resales	\$1,000.. 14 327	Coverage ratio	percent.. X
Contract receipts	\$1,000.. 105 537	Value added	\$1,000.. 1 401 304
Other miscellaneous receipts	\$1,000.. 1 714	Total inventories, beginning of year	\$1,000.. 320 274
Primary products specialization ratio	percent.. 96	Finished goods inventories, beginning of year	\$1,000.. 125 913
Value of primary products shipments made in all industries	\$1,000.. 4 366 938	Work-in-process inventories, beginning of year	\$1,000.. 87 726
Value of primary products shipments made in this industry	\$1,000.. 4 038 130	Materials and supplies inventories, beginning of year	\$1,000.. 106 635
Value of primary products shipments made in other industries	\$1,000.. 328 808	Total inventories, end of year	\$1,000.. 337 892
Coverage ratio	percent.. 92	Finished goods inventories, end of year	\$1,000.. 141 122
Value added	\$1,000.. 1 939 111	Work-in-process inventories, end of year	\$1,000.. 88 728
Total inventories, beginning of year	\$1,000.. 368 393	Materials and supplies inventories, end of year	\$1,000.. 108 042
Finished goods inventories, beginning of year	\$1,000.. 140 139	Gross book value of total assets at beginning of year	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 96 413	Total capital expenditures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 131 841	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 385 629	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 196 253
Finished goods inventories, end of year	\$1,000.. 155 579	Total retirements ²	\$1,000.. 44 284
Work-in-process inventories, end of year	\$1,000.. 99 898	Gross book value of total assets at end of year	\$1,000.. 1 675 603
Materials and supplies inventories, end of year	\$1,000.. 130 152	Total depreciation during year ²	\$1,000.. 103 728
Gross book value of total assets at beginning of year	\$1,000.. 1 441 214	Total rental payments ²	\$1,000.. 31 782
Total capital expenditures (new and used)	\$1,000.. 278 673	Buildings and other structures rental payments ²	\$1,000.. 17 029
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 82 420	Machinery and equipment rental payments ²	\$1,000.. 14 753
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 196 253	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Total retirements ²	\$1,000.. 44 284	Response coverage ratio ⁴	percent.. X
Gross book value of total assets at end of year	\$1,000.. 1 675 603	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Total depreciation during year ²	\$1,000.. 103 728	Response coverage ratio ⁴	percent.. X
Total rental payments ²	\$1,000.. 31 782	Cost of purchased communications services ³	\$1,000.. X
Buildings and other structures rental payments ²	\$1,000.. 17 029	Response coverage ratio ⁴	percent.. X
Machinery and equipment rental payments ²	\$1,000.. 14 753	Cost of purchased legal services ³	\$1,000.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 6 903	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 79	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 39 538	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 79	Cost of purchased advertising services ³	\$1,000.. X
Cost of purchased communications services ³	\$1,000.. 4 767	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 79	Cost of purchased software and other data processing services ³	\$1,000.. X
Cost of purchased legal services ³	\$1,000.. 2 656	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 79	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 193	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 79	3133122, Textile & fabric finishing mills—converter	
Cost of purchased advertising services ³	\$1,000.. 9 543	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 79	All establishments	number.. 14
Cost of purchased software and other data processing services ³	\$1,000.. 2 356	Establishments with 1 to 19 employees	number.. 9
Response coverage ratio ⁴	percent.. 79	Establishments with 20 to 99 employees	number.. 2
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 2 534	Establishments with 100 employees or more	number.. 3
Response coverage ratio ⁴	percent.. 79	All employees	number.. 961
3133121, Textile & fabric finishing mills— manufacturer			
Companies ¹	number.. N	Total compensation ²	\$1,000.. 41 444
All establishments	number.. 282	Annual payroll	\$1,000.. 34 104
Establishments with 1 to 19 employees	number.. 137	Total fringe benefits	\$1,000.. 7 340
Establishments with 20 to 99 employees	number.. 84	Production workers, average for year	number.. 667
Establishments with 100 employees or more	number.. 61	Production workers on March 12	number.. 658
All employees	number.. 22 206	Production workers on May 12	number.. 670
Total compensation ²	\$1,000.. 682 078	Production workers on August 12	number.. 683
Annual payroll	\$1,000.. 558 238	Production workers on November 12	number.. 657
Total fringe benefits	\$1,000.. 123 840	Production-worker hours	1,000.. 1 391
		Production-worker wages	\$1,000.. 14 154

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313312, TEXTILE & FABRIC FINISHING MILLS— Con.		313312, TEXTILE & FABRIC FINISHING MILLS— Con.	
3133122, Textile & fabric finishing mills—converter —Con.		3133123, Textile & fabric finishing mills— commission finisher	
Total cost of materials \$1,000..	233 074	Companies ¹ number..	N
Cost of materials, parts, containers, etc., consumed \$1,000..	206 632	All establishments number..	87
Cost of resales \$1,000..	203	Establishments with 1 to 19 employees number..	31
Cost of fuels \$1,000..	5 424	Establishments with 20 to 99 employees number..	38
Cost of purchased electricity \$1,000..	5 762	Establishments with 100 employees or more number..	18
Cost of contract work \$1,000..	15 053	All employees number..	6 187
Quantity of electricity purchased for heat and power 1,000 kWh..	75 354	Total compensation ² \$1,000..	182 561
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Annual payroll \$1,000..	153 814
Total value of shipments \$1,000..	416 639	Total fringe benefits \$1,000..	28 747
Primary products value of shipments \$1,000..	X	Production workers, average for year number..	5 331
Secondary products value of shipments \$1,000..	X	Production workers on March 12 number..	5 338
Total miscellaneous receipts \$1,000..	X	Production workers on May 12 number..	5 329
Value of resales \$1,000..	X	Production workers on August 12 number..	5 295
Contract receipts \$1,000..	X	Production workers on November 12 number..	5 362
Other miscellaneous receipts \$1,000..	X	Production-worker hours 1,000..	11 417
Primary products specialization ratio percent..	X	Production-worker wages \$1,000..	108 279
Value of primary products shipments made in all industries \$1,000..	X	Total cost of materials \$1,000..	148 230
Value of primary products shipments made in this industry \$1,000..	X	Cost of materials, parts, containers, etc., consumed \$1,000..	108 822
Value of primary products shipments made in other industries \$1,000..	X	Cost of resales \$1,000..	1 250
Coverage ratio percent..	X	Cost of fuels \$1,000..	19 566
Value added \$1,000..	184 002	Cost of purchased electricity \$1,000..	14 700
Total inventories, beginning of year \$1,000..	25 385	Cost of contract work \$1,000..	3 892
Finished goods inventories, beginning of year \$1,000..	11 257	Quantity of electricity purchased for heat and power 1,000 kWh..	209 177
Work-in-process inventories, beginning of year \$1,000..	7 047	Quantity of electricity generated less sold for heat and power 1,000 kWh..	—
Materials and supplies inventories, beginning of year \$1,000..	7 081	Total value of shipments \$1,000..	499 758
Total inventories, end of year \$1,000..	27 320	Primary products value of shipments \$1,000..	X
Finished goods inventories, end of year \$1,000..	11 035	Secondary products value of shipments \$1,000..	X
Work-in-process inventories, end of year \$1,000..	7 706	Total miscellaneous receipts \$1,000..	X
Materials and supplies inventories, end of year \$1,000..	8 579	Value of resales \$1,000..	X
Gross book value of total assets at beginning of year \$1,000..	X	Contract receipts \$1,000..	X
Total capital expenditures (new and used) \$1,000..	X	Other miscellaneous receipts \$1,000..	X
Capital expenditures for buildings and other structures (new and used) \$1,000..	X	Primary products specialization ratio percent..	X
Capital expenditures for machinery and equipment (new and used) \$1,000..	X	Value of primary products shipments made in all industries \$1,000..	X
Total retirements ² \$1,000..	X	Value of primary products shipments made in this industry \$1,000..	X
Gross book value of total assets at end of year \$1,000..	X	Value of primary products shipments made in other industries \$1,000..	X
Total depreciation during year ² \$1,000..	X	Coverage ratio percent..	X
Total rental payments ² \$1,000..	X	Value added \$1,000..	353 805
Buildings and other structures rental payments ² \$1,000..	X	Total inventories, beginning of year \$1,000..	22 734
Machinery and equipment rental payments ² \$1,000..	X	Finished goods inventories, beginning of year \$1,000..	2 969
Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	X	Work-in-process inventories, beginning of year \$1,000..	1 640
Response coverage ratio ⁴ percent..	X	Materials and supplies inventories, beginning of year \$1,000..	18 125
Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	X	Total inventories, end of year \$1,000..	20 417
Response coverage ratio ⁴ percent..	X	Finished goods inventories, end of year \$1,000..	3 422
Cost of purchased communications services ³ \$1,000..	X	Work-in-process inventories, end of year \$1,000..	3 464
Response coverage ratio ⁴ percent..	X	Materials and supplies inventories, end of year \$1,000..	13 531
Cost of purchased legal services ³ \$1,000..	X	Gross book value of total assets at beginning of year \$1,000..	X
Response coverage ratio ⁴ percent..	X	Total capital expenditures (new and used) \$1,000..	X
Cost of purchased accounting and bookkeeping services ³ \$1,000..	X	Capital expenditures for buildings and other structures (new and used) \$1,000..	X
Response coverage ratio ⁴ percent..	X	Capital expenditures for machinery and equipment (new and used) \$1,000..	X
Cost of purchased advertising services ³ \$1,000..	X	Total retirements ² \$1,000..	X
Response coverage ratio ⁴ percent..	X	Gross book value of total assets at end of year \$1,000..	X
Cost of purchased software and other data processing services ³ \$1,000..	X	Total depreciation during year ² \$1,000..	X
Response coverage ratio ⁴ percent..	X	Total rental payments ² \$1,000..	X
Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	X	Buildings and other structures rental payments ² \$1,000..	X
Response coverage ratio ⁴ percent..	X	Machinery and equipment rental payments ² \$1,000..	X
		Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased communications services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased legal services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased accounting and bookkeeping services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased advertising services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased software and other data processing services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X
		Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	X
		Response coverage ratio ⁴ percent..	X

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313312, TEXTILE & FABRIC FINISHING MILLS												
All establishments	2	383	206	29 354	746 156	24 751	52 027	507 693	1 939 111	2 393 400	4 313 586	278 673
Establishments with 1 to 4 employees	9	73	—	143	6 446	118	223	4 420	6 888	11 375	18 364	782
Establishments with 5 to 9 employees	7	47	—	302	6 715	239	463	4 492	14 465	20 891	35 336	1 294
Establishments with 10 to 19 employees	4	57	—	797	23 868	621	1 259	12 879	62 198	81 918	144 753	3 540
Establishments with 20 to 49 employees	3	71	71	2 298	64 271	1 760	3 740	41 119	206 209	219 328	424 480	11 930
Establishments with 50 to 99 employees	2	53	53	3 739	98 225	3 181	7 010	67 565	214 416	236 112	451 322	17 895
Establishments with 100 to 249 employees	1	47	47	6 977	169 095	5 812	11 860	113 908	409 240	473 417	884 423	26 108
Establishments with 250 to 499 employees	2	27	27	8 917	209 117	7 853	16 521	156 884	459 083	631 041	1 091 975	38 014
Establishments with 500 to 999 employees	1	7	7	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	77	—	485	8 385	414	782	5 928	16 451	22 986	39 371	1 805

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313312	Textile & fabric finishing mills	383	29 354	746 156	24 751	52 027	507 693	1 939 111	2 393 400	4 313 586	278 673

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313312	Finished fabrics (except broadwoven) and other finished textiles	N	X	X	4 366 938	N	X	X	N
3133120	Finished fabrics (except broadwoven) and other finished textiles	N	X	X	4 366 938	N	X	X	N
31331201	Finished yarn, raw stock, and narrow fabrics (except knit), not spun, thrown, woven, or braided in the same establishment	N	X	X	1 531 958	N	X	X	N
3133120111	Bleached yarns (except wool), not spun or thrown in the same establishment	8	X	P20.5	62 998	6	X	D	D
3133120121	Dyed carded cotton yarns, not spun in the same establishment	14	X	P49.1	124 971	29	X	64.0	147 404
3133120131	Dyed combed cotton yarns, not spun in the same establishment	13	X	33.9	130 410	15	X	60.1	123 909
3133120141	Dyed yarns of rayon, acetate, and-or lyocell, not spun or thrown in the same establishment	7	X	P7.2	34 539	16	X	26.5	53 442
3133120151	Dyed yarns of acrylic and-or modacrylic, not spun or thrown in the same establishment	7	X	20.3	59 606	6	X	D	D
3133120161	Dyed yarns, polyester blends with cotton, not spun or thrown in the same establishment	13	X	S	75 285	22	X	33.3	82 473
3133120171	Dyed yarns of polyester (except blends with cotton), not spun or thrown in the same establishment	12	X	53.7	152 306	18	X	S	116 584
3133120181	Dyed yarns of other manmade fibers and silk, not spun or thrown in the same establishment	12	X	S	114 637	21	X	S	110 013
3133120191	Mercerized cotton yarns, not spun in the same establishment	3	X	D	D	4	X	14.8	68 821
31331201B1	Raw stock, bleached or dyed (except wool)	3	X	D	D	7	X	S	69 988
31331201D1	Printed plastics film	1	X	D	D	1	X	-	D
31331201F1	Finished braided or woven narrow fabrics (except wool), not braided or woven in the same establishment	13	X	24.4	55 969	N	X	X	N
31331201H1	Finished wool yarns, including winding, tops, and raw stock, not combed or spun at the same establishment	14	X	X	98 389	N	X	X	N
31331201J1	Job or commission finishing of wool textiles, except broadwoven fabrics	2	X	X	D	3	X	X	3 119
31331201L1	Other textile and fabric finishing (except broadwoven and knit)	10	X	X	510 955	N	X	X	N
31331201N1	Commission receipts for winding, warping, etc., of yarn not thrown or spun in the same establishment	8	X	X	40 599	N	X	X	N
31331201P1	Finished thread and yarn of linen	-	X	X	-	N	X	X	N
31331202	Finished garments, including stone washed and tie dyed, not cut and sewn or knit in the same establishment	N	X	X	81 066	N	X	X	N
31331202M1	Finished garments, including stone washed and tie dyed, not cut and sewn or knit in the same establishment	17	X	X	81 066	N	X	X	N
31331203	Finished weft (circular) knit fabrics, except hosiery, not knit in the same establishment, broad (more than 12 inches wide)	N	X	X	1 371 281	N	X	X	N
3133120311	Finished weft (circular) knit fabrics, except hosiery, not knit in the same establishment, broad (more than 12 inches wide)	32	X	528.4	1 371 281	29	X	435.7	1 040 377
31331204	Finished warp knit fabrics, not knit in the same establishment, broad (more than 12 inches wide)	N	X	X	409 060	N	X	X	N
3133120411	Finished warp knit fabrics, not knit in the same establishment, broad (more than 12 inches wide)	18	X	221.3	409 060	21	X	260.5	762 016
31331205	Finished knit fabrics, not knit in the same establishment, narrow (12 inches wide or less)	N	X	X	152 105	N	X	X	N
3133120511	Finished weft (circular) knit fabrics, not knit in the same establishment, narrow (12 inches wide or less)	5	X	P20.3	36 468	8	X	S	13 515
3133120521	Finished warp knit fabrics, not knit in the same establishment, narrow (12 inches wide or less)	6	X	86.8	115 637	7	X	S	37 711
31331206	Contract and commission receipts for finishing only, weft (circular) knit fabrics	N	X	X	224 470	N	X	X	N
3133120611	Contract and commission receipts for finishing only, weft (circular) knit fabrics, broad (more than 12 inches wide)	28	X	X	D	N	X	X	N
3133120621	Contract and commission receipts for finishing only, weft (circular) knit fabrics, narrow (12 inches wide or less)	2	X	X	D	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313312	Finished fabrics (except broadwoven) and other finished textiles—Con.								
3133120	Finished fabrics (except broadwoven) and other finished textiles—Con.								
31331207	Contract and commission receipts for finishing only, warp knit fabrics and receipts for dyeing and finishing lace and net goods	N	X	X	223 610	N	X	X	N
3133120711	Contract and commission receipts for finishing only, warp knit fabrics, broad (more than 12 inches wide)	18	X	X	204 630	N	X	X	N
3133120721	Contract and commission receipts for finishing only, warp knit fabrics, narrow (12 inches wide or less)	—	X	X	—	N	X	X	N
3133120731	Contract and commission receipts for dyeing and finishing lace and net goods, except raschel and burned-out lace	5	X	X	18 980	9	X	X	41 801
3133120Y	Finished fabrics (except broadwoven fabric) and other finished textiles, nsk	N	X	X	373 388	N	X	X	N
3133120YWW	Finished fabrics (except broadwoven) and other finished textiles, nsk, for nonadministrative-record establishments	N	X	X	331 928	N	X	X	N
3133120YWY	Finished fabrics (except broadwoven) and other finished textiles, nsk, for administrative-record establishments	N	X	X	41 460	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313312	TEXTILE & FABRIC FINISHING MILLS				
31311101	Spun yarn, all fibers	364.3	640 324	N	N
31321027	Broadwoven fabrics	506.1	13 894	N	N
32513003	Dyes, lakes, and toners	X	203 952	X	N
31324000	Knit fabrics	S	945 310	N	N
00970099	All other materials and components, parts, containers, and supplies	X	169 498	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	198 292	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313312 TEXTILE AND FABRIC FINISHING (EXCEPT BROADWOVEN FABRIC) MILLS

This U.S. industry comprises (1) establishments primarily engaged in dyeing, bleaching, printing, and other finishing of textiles, apparel, and fabrics (except broadwoven) and (2) establishments of converters who buy fabrics (except broadwoven) in grey, have them finished on contract, and sell at wholesale. Finishing operations include bleaching, dyeing, printing (e.g., roller, screen, flock, plisse), stonewashing, and other mechanical finishing, such as preshrinking, shrinking, sponging, calendaring, mercerizing and napping; as well as cleaning, scouring, and the preparation of natural fibers and raw stock.

The data published with NAICS code 313312 include the following SIC industries:

- 2231 Weaving and finishing mills, wool (pt)
- 2257 Circular knit fabric mills (pt)
- 2258 Lace and warp knit fabric mills (pt)

- 2269 Finishing plants, n.e.c.
- 2282 Yarn throwing and winding mills (pt)
- 2284 Thread mills (pt)
- 2299 Textile goods, n.e.c. (pt)
- 5131 Piece goods, notions, and other dry goods (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 313312 include establishments primarily engaged in the winding and warping of purchased yarn, but do not include establishments only engaged in the dyeing and finishing process of hosiery, knit outerwear, knit underwear and nightwear, or knit gloves and mittens. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F10	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	2211002	2211002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
3131127	22829 pt	22829 pt	313210N121 pt	2221H20	2221H20	3132301	22971	22971
3131127100 pt	2282900 pt	2282900 pt	313210N121 pt	2221H05	2221H05	3132301111 pt	2297138 pt	2297131 pt
3131127100 pt	2282911	2282911	313210N121 pt	2221J03	2221J03	3132301111 pt	2297138 pt	2297133 pt
313112W	22820 pt	22820 pt	313210N121 pt	2221J05	2221J05	3132301121 pt	2297132 pt	2297131 pt
313112WYVW	2282000 pt	2282000 pt	313210N121 pt	2221J12 pt	2221J07	3132301121 pt	2297132 pt	2297133 pt
313112WYVW	2282002 pt	2282002 pt	313210N121 pt	2221J12 pt	2221J11	3132301131 pt	2297124 pt	2297121
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Fabric Coating Mills

1997

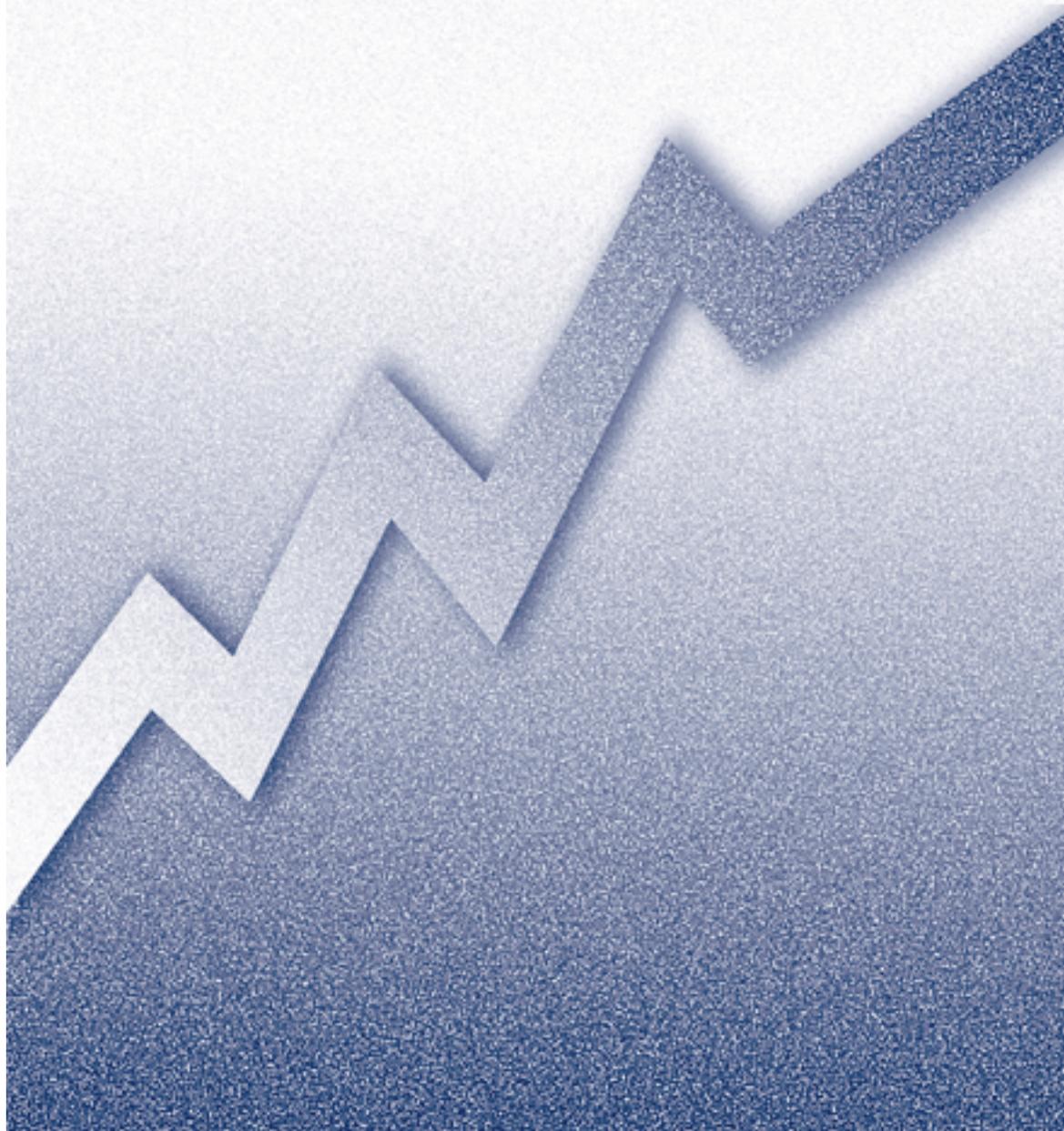
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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313320	Fabric coating mills	245	258	11 448	382 889	8 204	16 755	222 676	875 378	1 301 217	2 198 674	74 446
229500	Coated fabrics, not rubberized .	N	227	9 935	335 615	7 068	14 596	194 643	734 985	1 105 736	1 863 549	67 884
306910	Fabricated rubber products, n.e.c. (pt)	N	31	1 513	47 274	1 136	2 159	28 033	140 393	195 481	335 125	6 562

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313320, FABRIC COATING MILLS												
United States	1	258	121	11 448	382 889	8 204	16 755	222 676	875 378	1 301 217	2 198 674	74 446
California	3	32	10	769	27 825	546	1 191	15 441	54 273	110 263	172 758	6 052
Connecticut	-	9	6	529	22 587	368	822	9 364	46 852	64 079	109 927	847
Florida	7	10	4	142	2 892	102	144	2 032	6 083	8 529	15 337	499
Georgia	-	8	4	238	7 259	189	381	5 199	23 231	42 908	64 696	883
Massachusetts	-	24	17	1 422	57 376	987	2 245	31 955	123 529	192 780	323 446	6 671
Michigan	1	8	2	127	3 567	101	190	2 173	10 136	22 804	33 321	1 178
New Jersey	2	23	8	783	26 610	586	1 202	16 231	82 109	70 585	151 516	3 984
New York	2	18	7	650	20 530	480	902	11 426	38 626	54 572	95 599	2 192
North Carolina	-	16	12	1 235	33 799	924	2 020	21 175	109 855	208 420	317 727	7 171
Ohio	-	14	9	1 543	50 824	1 074	2 187	31 168	102 009	149 137	252 465	15 307
Pennsylvania	2	14	7	481	14 830	321	524	8 728	30 494	38 895	69 743	1 537
Rhode Island	-	5	3	164	4 951	119	204	2 844	10 305	15 179	25 986	841
South Carolina	-	6	3	621	16 797	395	854	9 225	32 547	30 715	64 578	1 015
Tennessee	5	8	3	545	16 971	429	791	12 122	32 474	53 741	90 238	3 448
Wisconsin	-	8	4	485	18 673	405	906	13 344	52 256	31 444	83 972	793

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
313320, FABRIC COATING MILLS		313320, FABRIC COATING MILLS—Con.	
Companies ¹	number.. 245	Value added	\$1,000.. 875 378
All establishments	number.. 258	Total inventories, beginning of year	\$1,000.. 346 098
Establishments with 1 to 19 employees	number.. 137	Finished goods inventories, beginning of year	\$1,000.. 160 719
Establishments with 20 to 99 employees	number.. 89	Work-in-process inventories, beginning of year	\$1,000.. 43 759
Establishments with 100 employees or more	number.. 32	Materials and supplies inventories, beginning of year	\$1,000.. 141 620
All employees	number.. 11 448	Total inventories, end of year	\$1,000.. 299 051
Total compensation ²	\$1,000.. 505 363	Finished goods inventories, end of year	\$1,000.. 144 909
Annual payroll	\$1,000.. 382 889	Work-in-process inventories, end of year	\$1,000.. 37 490
Total fringe benefits	\$1,000.. 122 474	Materials and supplies inventories, end of year	\$1,000.. 116 652
Production workers, average for year	number.. 8 204	Gross book value of total assets at beginning of year	\$1,000.. 724 723
Production workers on March 12	number.. 8 440	Total capital expenditures (new and used)	\$1,000.. 74 446
Production workers on May 12	number.. 8 090	Capital expenditures for buildings and other structures	
Production workers on August 12	number.. 8 036	(new and used)	\$1,000.. 12 231
Production workers on November 12	number.. 8 278	Capital expenditures for machinery and equipment (new	
Production-worker hours	1,000.. 16 755	and used)	\$1,000.. 62 215
Production-worker wages	\$1,000.. 222 676	Total retirements ²	\$1,000.. 25 435
Total cost of materials	\$1,000.. 1 301 217	Gross book value of total assets at end of year	\$1,000.. 773 734
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 198 674	Total depreciation during year ²	\$1,000.. 52 159
Cost of resales	\$1,000.. 38 071	Total rental payments ²	\$1,000.. 26 430
Cost of fuels	\$1,000.. 20 184	Buildings and other structures rental payments ²	\$1,000.. 5 176
Cost of purchased electricity	\$1,000.. 22 683	Machinery and equipment rental payments ²	\$1,000.. 21 254
Cost of contract work	\$1,000.. 17 753	Cost of purchased services for the repair of buildings and other	
Quantity of electricity purchased for heat and power	1,000 kWh.. 329 601	structures ³	\$1,000.. 2 574
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Response coverage ratio ⁴	percent.. 85
Total value of shipments	\$1,000.. 2 198 674	Cost of purchased services for the repair of machinery and	
Primary products value of shipments	\$1,000.. 1 959 271	equipment ³	\$1,000.. 15 762
Secondary products value of shipments	\$1,000.. 142 079	Response coverage ratio ⁴	percent.. 85
Total miscellaneous receipts	\$1,000.. 97 324	Cost of purchased communications services ³	\$1,000.. 3 020
Value of resales	\$1,000.. 49 630	Response coverage ratio ⁴	percent.. 85
Contract receipts	\$1,000.. 25 139	Cost of purchased legal services ³	\$1,000.. 4 416
Other miscellaneous receipts	\$1,000.. 22 555	Response coverage ratio ⁴	percent.. 85
Primary products specialization ratio	percent.. 93	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 18 680
Value of primary products shipments made in all industries	\$1,000.. 2 196 511	Response coverage ratio ⁴	percent.. 85
Value of primary products shipments made in this industry	\$1,000.. 1 959 271	Cost of purchased advertising services ³	\$1,000.. 2 536
Value of primary products shipments made in other		Response coverage ratio ⁴	percent.. 85
industries	\$1,000.. 237 240	Cost of purchased software and other data processing	
Coverage ratio	percent.. 89	services ³	\$1,000.. 1 439
		Response coverage ratio ⁴	percent.. 85
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$1,000.. 5 091
		Response coverage ratio ⁴	percent.. 85

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313320, FABRIC COATING MILLS												
All establishments	1	258	121	11 448	382 889	8 204	16 755	222 676	875 378	1 301 217	2 198 674	74 446
Establishments with 1 to 4 employees	8	59	—	131	3 005	97	146	1 803	6 744	10 341	17 593	547
Establishments with 5 to 9 employees	8	43	—	278	7 008	198	321	4 425	16 565	22 938	41 654	1 268
Establishments with 10 to 19 employees	4	35	—	502	13 516	339	568	7 452	36 462	58 703	98 050	3 063
Establishments with 20 to 49 employees	2	55	55	1 754	57 145	1 286	2 519	31 692	135 549	185 081	323 906	7 227
Establishments with 50 to 99 employees	1	34	34	2 547	80 479	1 763	3 581	43 053	188 968	350 451	547 812	12 031
Establishments with 100 to 249 employees	—	26	26	4 257	152 221	3 067	6 523	88 758	352 623	492 190	841 770	28 994
Establishments with 250 to 499 employees	1	6	6	1 979	69 515	1 454	3 097	45 493	138 467	181 513	327 889	21 316
Establishments with 500 to 999 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	105	—	675	16 350	476	707	9 927	32 512	54 373	92 911	3 127

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
313320	Fabric coating mills	258	11 448	382 889	8 204	16 755	222 676	875 378	1 301 217	2 198 674	74 446
3133201	Vinyl coated fabrics, including expanded vinyl coated	30	3 223	111 920	2 286	4 954	67 508	257 331	307 236	568 199	21 051
3133203	Rubber coated fabrics	15	1 402	44 501	1 047	1 995	26 114	131 467	187 484	318 109	6 042
3133205	Other coated or laminated fabrics and coated yarns, not rubberized	74	5 423	184 342	3 873	8 048	105 560	408 528	681 111	1 099 617	38 924

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313320	Coated fabrics	N	X	X	2 196 511	N	X	X	N
3133201	Vinyl coated fabrics, including expanded vinyl coated	N	X	X	633 244	N	X	X	614 116
31332011	Vinyl coated fabrics, including expanded vinyl coated, lightweight fabrics, 10 oz or less per sq yd finished weight	N	X	X	184 245	N	X	X	N
3133201111	Vinyl coated fabrics, including expanded vinyl coated, lightweight fabrics, 10 oz or less per sq yd finished weight, woven fabrics base	13	X	X	65 035	18	X	N	59 708
3133201121	Vinyl coated fabrics, including expanded vinyl coated, lightweight fabrics, 10 oz or less per sq yd finished weight, knit fabrics base	11	X	X	60 193	9	X	N	53 034
3133201131	Vinyl coated fabrics, including expanded vinyl coated, lightweight fabrics, 10 oz or less per sq yd finished weight, nonwoven base	5	X	X	59 017	8	X	N	62 410
31332012	Vinyl coated fabrics, including expanded vinyl coated, mediumweight fabrics, more than 10 oz up to 16 oz per sq yd finished weight	N	X	X	185 267	N	X	X	N
3133201241	Vinyl coated fabrics, including expanded vinyl coated, mediumweight fabrics, more than 10 oz up to 16 oz per sq yd finished weight, woven fabrics base	12	X	X	80 915	16	X	N	91 949
3133201251	Vinyl coated fabrics, including expanded vinyl coated, mediumweight fabrics, more than 10 oz up to 16 oz per sq yd finished weight, knit fabrics base	12	X	X	65 174	9	X	N	70 116
3133201261	Vinyl coated fabrics, including expanded vinyl coated, mediumweight fabrics, more than 10 oz up to 16 oz per sq yd finished weight, nonwoven base	6	X	X	39 178	8	X	N	44 283
31332013	Vinyl coated fabrics, including expanded vinyl coated, heavyweight fabrics, more than 16 oz per sq yd finished weight	N	X	X	250 836	N	X	X	N
3133201371	Vinyl coated fabrics, including expanded vinyl coated, heavyweight fabrics, more than 16 oz per sq yd finished weight, woven fabrics base	11	X	X	138 190	16	X	N	138 697
3133201381	Vinyl coated fabrics, including expanded vinyl coated, heavyweight fabrics, more than 16 oz per sq yd finished weight, knit fabrics base	10	X	X	70 618	6	X	N	43 037
3133201391	Vinyl coated fabrics, including expanded vinyl coated, heavyweight fabrics, more than 16 oz per sq yd finished weight, nonwoven base	7	X	X	42 028	9	X	N	30 606
3133201Y	Vinyl coated fabrics, including expanded vinyl coated, nsk	N	X	X	12 896	N	X	X	N
3133201YWV	Vinyl coated fabrics, including expanded vinyl coated, nsk	N	X	X	12 896	N	X	X	20 276
3133203	Rubber coated fabrics	N	X	X	292 969	N	X	X	N
31332031	Rubber coated fabrics	N	X	X	292 969	N	X	X	N
3133203111	Rubber coated garment and footwear fabrics	4	X	X	13 005	7	X	X	24 843
3133203121	Rubber coated inflatable fabrics	6	X	X	24 060	6	X	X	22 998
3133203131	Other rubber coated fabrics (automotive and furniture upholstery, hospital and crib sheeting, and protective covering fabrics)	23	X	X	255 904	16	X	X	97 777
3133203Y	Rubber coated fabrics, nsk	N	X	X	-	N	X	X	N
3133203YWV	Rubber coated fabrics, nsk	N	X	X	-	N	X	X	N
3133205	Other coated or laminated fabrics and coated yarns, not rubberized	N	X	X	1 088 569	N	X	X	776 675
31332051	Pyroxylin and polyurethane coated fabrics	N	X	X	159 539	N	X	X	N
3133205111	Pyroxylin coated fabrics	2	X	X	D	5	X	N	54 216
3133205121	Polyurethane coated fabrics	15	X	X	D	12	X	N	87 757
31332052	Other coated or laminated fabrics, excluding rubberized fabrics	N	X	X	789 430	N	X	X	N
3133205231	Fiber coated fabrics	6	X	X	86 894	N	X	X	N
3133205241	Impregnated fabrics	12	X	X	125 173	N	X	X	N
3133205251	Laminated fabrics, lightweight fabrics, 10 oz or less per sq yd finished weight	20	X	X	160 097	N	X	X	N
3133205261	Laminated fabrics, mediumweight fabrics, more than 10 oz up to and including 16 oz per sq yd finished weight	22	X	X	214 799	N	X	X	N
3133205271	Laminated fabrics, heavyweight fabrics, more than 16 oz per sq yd finished weight	22	X	X	202 467	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
313320	Coated fabrics—Con.								
3133205	Other coated or laminated fabrics and coated yarns, not rubberized—Con.								
31332054	All other coated fabrics and yarns, all types except rubberized	N	X	X	134 513	N	X	X	N
3133205481	All other coated fabrics and yarns, all types except rubberized	26	X	X	134 513	10	X	N	100 776
3133205Y	Other coated or laminated fabrics and coated yarns, nsk	N	X	X	5 087	N	X	X	N
3133205YWW	Other coated or laminated fabrics and coated yarns, nsk	N	X	X	5 087	N	X	X	5 230
313320W	Fabric coating mills, nsk, total	N	X	X	181 729	N	X	X	N
313320WY	Fabric coating mills, nsk, total	N	X	X	181 729	N	X	X	N
313320WYWW	Fabric coating mills, nsk, for nonadministrative-record establishments	N	X	X	93 648	N	X	X	N
313320WYWY	Fabric coating mills, nsk, for administrative-record establishments	N	X	X	88 081	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3133201	VINYL COATED FABRICS, INCLUDING EXPANDED VINYL COATED		
	United States	633 244	614 116
	Massachusetts	75 188	89 269
	New Jersey	87 180	37 061
	North Carolina	47 380	71 870
	Ohio	149 467	102 290
	Pennsylvania	10 982	N
3133203	RUBBER COATED FABRICS		
	United States	292 969	N
	Massachusetts	16 953	N
3133205	OTHER COATED OR LAMINATED FABRICS AND COATED YARNS, NOT RUBBERIZED		
	United States	1 088 569	776 675
	California	114 905	102 573
	Connecticut	44 858	22 151
	Georgia	61 544	2 980
	Massachusetts	206 788	104 668
	Michigan	27 646	N
	New Jersey	34 990	N
	New York	62 445	64 699
	North Carolina	86 224	100 882
	Ohio	50 390	64 580
	Pennsylvania	36 590	29 329
	Wisconsin	11 254	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
313320	FABRIC COATING MILLS				
32520003	Manmade fibers, staple, and tow	X	40 668	N	N
31311003	Yarn, all fibers	X	43 520	N	N
31320013	Cotton fabrics	X	84 441	N	N
31320015	Manmade fiber fabrics, including glass	X	211 829	N	N
32212003	Paper (cellulosic wadding)	X	15 969	N	N
32552009	Adhesives and binders (resins)	X	44 794	N	N
32510059	Plasticizers	X	42 334	N	N
32521139	Vinyl and vinyl copolymer resins, all forms	X	54 169	N	N
32521115	Plastics resins (except vinyl) consumed in the form of granules, pellets, powders, liquids, etc.	X	38 707	N	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	33 391	N	N
32521213	Ethylene-propylene type plastics and synthetic rubber	X	2 190	N	N
32521203	SBR-type synthetic rubber	X	5 221	N	N
32629905	Rubber compounds and mixtures purchased (dry rubber solids content)	X	12 050	N	N
32520007	Other plastics materials and synthetic resins, synthetic rubber, cellulosic and other manmade fibers, except glass	X	28 987	N	N
11321005	Natural latex rubber (dry solids content)	X	D	N	N
11321003	Natural dry rubber	X	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	360 154	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	178 570	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

313320 FABRIC COATING MILLS

This U.S. industry comprises establishments primarily engaged in coating, laminating, varnishing, waxing, and rubberizing textiles and apparel.

The data published with NAICS code 313320 include the following SIC industries:

- 2295 Coated fabrics, not rubberized
- 3069 Fabricated rubber products, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31311111	22811	22811	3132105	2211D	2211D	313210V	22319	22319
3131111111	2281110	2281110	3132105100	2211D00	2211D00	313210V100 pt	2231900 pt	2231900
313111221	2281187	2281187	3132107	2211E	2211E	313210V100 pt	2231900 pt	2231901
313111YVW	2281100	2281100	3132107100	2211E00	2211E00	313210V100 pt	2231900 pt	2231903
3131113	22812	22812	3132109	2211F	2211F	313210W pt	22110	22110
3131113111	2281210	2281210	3132109111	2211F01	2211F01	313210W pt	22210	22210
3131113121	2281215	2281215	3132109121	2211F03	2211F03	313210W pt	22310 pt	22310 pt
3131113YVW	2281200	2281200	3132109131	2211F05	2211F05	313210W pt	22990 pt	22990 pt
3131115	22813	22813	3132109141	2211F07	2211F07	313210WYVW pt	221000	221000
3131115111	2281310	2281310	3132109151 pt	2211F10 pt	2211F10	313210WYVW pt	2231000 pt	2231000 pt
3131115121	2281343	2281343	3132109151 pt	2211F10 pt	2211F11	313210WYVW pt	2290000 pt	2290000 pt
3131115YVW	2281300	2281300	3132109161	2211F13	2211F13	313210WYVW pt	221002	221002
3131117	22814	22814	3132109171 pt	2211F18 pt	2211F15	313210WYVW pt	2231002 pt	2231002 pt
3131117111	2281420	2281420	3132109171 pt	2211F18 pt	2211F19	313210WYVW pt	2290002 pt	2290002 pt
3131117221	2281441	2281441	3132109181	2211F23	2211F23	313210WYVW pt	2299002 pt	2299002 pt
3131117331	2281480	2281480	3132109YVW	2211F00	2211F00	3132211 pt	22411	22411
3131117441	2281481	2281481	313210B	2211G	2211G	3132211 pt	22996 pt	22996 pt
3131117YVW	2281400	2281400	313210B110	2211G10	2211G10	3132211111 pt	2241104 pt	2241103
3131119	22815	22815	313210B120	2211G30	2211G30	3132211111 pt	2241104 pt	2241105
3131119111	2281510	2281510	313210B120	2211G30	2211G30	3132211121	2241107	2241107
3131119121	2281520	2281520	313210BYVW	2211G00	2211G00	3132211231	2241111	2241111
3131119YVW	2281500	2281500	313210C	2211H	2211H	3132211241	2241113	2241113
313111A	22996 pt	22996 pt	313210C110	2211H25	2211H25	3132211251 pt	2241117 pt	2241114
313111A111	2299602	2299601 pt	313210C120 pt	2211H06 pt	2211H01 pt	3132211251 pt	2241117 pt	2241115
313111A121	2299606	2299603 pt	313210C120 pt	2211H06 pt	2211H03 pt	3132211261	2241116	2241116
313111AYVW	2299600 pt	2299600 pt	313210C130 pt	2211H08 pt	2211H01 pt	3132211371 pt	2241119	2241119
313111C	22996 pt	22996 pt	313210C130 pt	2211H08 pt	2211H03 pt	3132211371 pt	2299613	2299601 pt
313111C111	2299610	2299610	313210C141 pt	2211H11 pt	2211H01 pt	3132211371 pt	2299614	2299603 pt
313111C121	2299611	2299611	313210C141 pt	2211H11 pt	2211H03 pt	3132211YVW pt	2241100	2241100
313111CYVW	2299600 pt	2299600 pt	313210CYVW	2211H00	2211H00	3132211YVW pt	2299600 pt	2299600 pt
313111W pt	22810	22810	313210E	2221B	2221B	3132213	22414	22414
313111W pt	22990 pt	22990 pt	313210E100	2221B00	2221B00	3132213111	2241401	2241401
313111YVW pt	2281000	2281000	313210G	2221C00	2221C00	3132213121	2241403	2241403
313111YVW pt	2299000 pt	2299000 pt	313210G100	2221C00	2221C00	3132213131	2241405	2241405
313111YVW pt	2281002	2281002	313210H	2221D	2221D	3132213YVW	2241400	2241400
313111YVW pt	2299002 pt	2299002 pt	313210H100	2221D00	2221D00	3132215	22415	22415
3131121	22822 pt	22822 pt	313210J	2221E	2221E	3132215100	2241500	2241500
3131121111	2282223	2282221 pt	313210J100	2221E00	2221E00	313221W pt	22410	22410
3131121121	2282231	2282231	313210L	2221F	2221F	313221W pt	22990 pt	22990 pt
3131121YVW	2282200 pt	2282200 pt	313210L100	2221F00	2221F00	313221WYVW pt	2241000	2241000
3131123	22823	22823	313210M	2221G	2221G	313221WYVW pt	2299000 pt	2299000 pt
3131123111	2282311	2282311	313210M100	2221G00	2221G00	313221WYVW pt	2241002	2241002
3131123221	2282313	2282313	313210N pt	2221H	2221H	313221WYVW pt	2299002 pt	2299002 pt
3131123231	2282315	2282315	313210N pt	2221H	2221H	3132220	23970	23970
3131123YVW	2282300	2282300	313210N pt	2221H	2221H	3132220000	2397000 pt	2397000 pt
3131125	22825	22825	313210N pt	2221H	2221H	3132220YVW	2397000 pt	2397000 pt
3131125100	2282500	2282500	313210N111	2221H10	2221H10	3132220YVW	2397002	2397002
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Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314110	Carpet & rug mills	413	474	50 820	1 306 299	40 908	89 450	901 754	4 467 335	7 068 911	11 550 526	210 731
227300	Carpets & rugs	N	474	50 820	1 306 299	40 908	89 450	901 754	4 467 335	7 068 911	11 550 526	210 731

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314110, CARPET & RUG MILLS												
United States	-	474	193	50 820	1 306 299	40 908	89 450	901 754	4 467 335	7 068 911	11 550 526	210 731
Alabama	3	4	4	1 889	40 808	1 590	3 330	29 974	131 726	186 234	317 454	7 450
California	2	36	18	3 629	112 173	2 509	5 347	55 062	309 213	462 165	776 600	15 122
Georgia	-	251	119	32 024	826 723	25 584	57 826	574 992	3 134 724	5 116 123	8 221 941	139 818
Indiana	1	7	1	320	6 979	268	537	4 577	10 887	19 075	29 939	543
Massachusetts	1	9	3	167	4 595	105	216	2 727	10 644	16 480	27 381	114
Michigan	-	5	1	100	3 006	88	168	1 684	3 796	5 139	9 199	133
New York	5	10	3	187	5 727	149	319	4 247	8 847	20 078	29 557	905
North Carolina	-	33	10	2 738	60 467	2 367	4 710	46 315	233 469	310 694	565 560	4 297
Pennsylvania	-	8	4	1 830	66 306	1 413	3 287	43 237	165 324	230 215	395 160	13 645
Rhode Island	2	7	4	436	7 535	399	701	5 825	11 839	19 614	32 961	752
South Carolina	-	16	10	2 392	50 356	2 147	4 196	39 768	117 818	162 264	287 538	11 646
Tennessee	-	11	4	786	16 489	707	1 701	14 102	65 019	132 207	197 461	1 342

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314110, CARPET & RUG MILLS		314110, CARPET & RUG MILLS—Con.	
Companies ¹	number.. 413	Value added	\$.1,000.. 4 467 335
All establishments	number.. 474	Total inventories, beginning of year	\$.1,000.. 1 399 790
Establishments with 1 to 19 employees	number.. 281	Finished goods inventories, beginning of year	\$.1,000.. 615 913
Establishments with 20 to 99 employees	number.. 90	Work-in-process inventories, beginning of year	\$.1,000.. 327 547
Establishments with 100 employees or more	number.. 103	Materials and supplies inventories, beginning of year	\$.1,000.. 456 330
All employees	number.. 50 820	Total inventories, end of year	\$.1,000.. 1 390 089
Total compensation ²	\$.1,000.. 1 575 644	Finished goods inventories, end of year	\$.1,000.. 645 042
Annual payroll	\$.1,000.. 1 306 299	Work-in-process inventories, end of year	\$.1,000.. 284 138
Total fringe benefits	\$.1,000.. 269 345	Materials and supplies inventories, end of year	\$.1,000.. 460 909
Production workers, average for year	number.. 40 908	Gross book value of total assets at beginning of year	\$.1,000.. 2 531 264
Production workers on March 12	number.. 40 673	Total capital expenditures (new and used)	\$.1,000.. 210 731
Production workers on May 12	number.. 40 434	Capital expenditures for buildings and other structures	
Production workers on August 12	number.. 41 166	(new and used)	\$.1,000.. 38 219
Production workers on November 12	number.. 41 347	Capital expenditures for machinery and equipment (new	
Production-worker hours	1,000.. 89 450	and used)	\$.1,000.. 172 512
Production-worker wages	\$.1,000.. 901 754	Total retirements ²	\$.1,000.. 55 088
Total cost of materials	\$.1,000.. 7 068 911	Gross book value of total assets at end of year	\$.1,000.. 2 686 907
Cost of materials, parts, containers, etc., consumed	\$.1,000.. 6 743 375	Total depreciation during year ²	\$.1,000.. 174 149
Cost of resales	\$.1,000.. 33 993	Total rental payments ²	\$.1,000.. 46 192
Cost of fuels	\$.1,000.. 70 789	Buildings and other structures rental payments ²	\$.1,000.. 25 287
Cost of purchased electricity	\$.1,000.. 83 070	Machinery and equipment rental payments ²	\$.1,000.. 20 905
Cost of contract work	\$.1,000.. 137 684	Cost of purchased services for the repair of buildings and other	
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 662 113	structures ³	\$.1,000.. 12 271
Quantity of electricity generated less sold for heat and power	1,000 kWh.. D	Response coverage ratio ⁴	percent.. 80
Total value of shipments	\$.1,000.. 11 550 526	Cost of purchased services for the repair of machinery and	
Primary products value of shipments	\$.1,000.. 10 888 883	equipment ³	\$.1,000.. 70 385
Secondary products value of shipments	\$.1,000.. 514 556	Response coverage ratio ⁴	percent.. 80
Total miscellaneous receipts	\$.1,000.. 147 087	Cost of purchased communications services ³	\$.1,000.. 12 864
Value of resales	\$.1,000.. 52 773	Response coverage ratio ⁴	percent.. 80
Contract receipts	\$.1,000.. 89 966	Cost of purchased legal services ³	\$.1,000.. 7 350
Other miscellaneous receipts	\$.1,000.. 4 348	Response coverage ratio ⁴	percent.. 80
Primary products specialization ratio	percent.. 95	Cost of purchased accounting and bookkeeping services ³	\$.1,000.. 3 293
Value of primary products shipments made in all industries	\$.1,000.. 11 032 089	Response coverage ratio ⁴	percent.. 80
Value of primary products shipments made in this industry	\$.1,000.. 10 888 883	Cost of purchased advertising services ³	\$.1,000.. 12 148
Value of primary products shipments made in other		Response coverage ratio ⁴	percent.. 80
industries	\$.1,000.. 143 206	Cost of purchased software and other data processing	
Coverage ratio	percent.. 98	services ³	\$.1,000.. 5 280
		Response coverage ratio ⁴	percent.. 80
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$.1,000.. 6 689
		Response coverage ratio ⁴	percent.. 80

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314110, CARPET & RUG MILLS												
All establishments	-	474	193	50 820	1 306 299	40 908	89 450	901 754	4 467 335	7 068 911	11 550 526	210 731
Establishments with 1 to 4 employees	8	150	-	336	6 409	305	506	4 701	13 576	29 583	46 409	2 465
Establishments with 5 to 9 employees	8	75	-	497	10 191	404	685	6 690	20 227	41 497	67 444	1 642
Establishments with 10 to 19 employees	7	56	-	756	15 115	599	1 023	9 663	32 637	61 326	100 475	1 912
Establishments with 20 to 49 employees	3	58	58	1 977	42 751	1 556	3 017	27 928	115 502	163 790	278 050	7 956
Establishments with 50 to 99 employees	-	32	32	2 344	61 244	1 965	3 841	40 112	123 319	198 454	326 241	8 934
Establishments with 100 to 249 employees	-	38	38	6 223	154 917	4 708	10 142	96 191	471 490	661 870	1 106 804	43 212
Establishments with 250 to 499 employees	-	35	35	12 538	317 115	10 693	24 568	241 794	1 245 462	2 073 817	3 339 129	46 907
Establishments with 500 to 999 employees	-	24	24	16 853	461 227	12 845	27 857	284 176	1 554 000	2 423 224	3 971 272	72 620
Establishments with 1,000 to 2,499 employees	-	5	5	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	1	1	D	D	D	D	D	D	D	D	D
Administrative records ²	9	237	-	1 432	25 855	1 199	1 879	18 127	53 772	107 712	176 286	4 170

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314110	Carpet & rug mills	474	50 820	1 306 299	40 908	89 450	901 754	4 467 335	7 068 911	11 550 526	210 731
3141101	Woven carpets and rugs	13	2 761	64 993	2 350	4 495	51 070	176 179	158 483	328 774	12 981
3141103	Tufted carpets and rugs	164	43 309	1 140 296	34 615	77 390	782 011	4 051 820	6 572 695	10 621 518	180 501
3141105	Carpets, rugs, and mats, nec (knitted, braided, hooked, needle-punched, woven paper yarn, coconut fiber, etc.)	20	2 175	50 080	1 779	3 667	33 008	134 781	184 051	329 764	6 326

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314110	Carpet and rugs @	N	X	X	11 032 089	N	X	X	9 518 378
3141101	Woven carpets and rugs @	N	X	X	345 497	N	X	X	285 103
31411010	Woven carpets and rugs	N	X	X	345 497	N	X	X	N
3141101000	Woven carpets and rugs .mil sq yd.	14	X	23.9	345 497	19	X	18.8	285 103
3141103	Tufted carpets and rugs @	N	X	X	10 116 896	N	X	X	8 820 737
31411031	Carpets and rugs, tufted only or tufted and finished in the same establishment	N	X	X	9 497 680	N	X	X	N
3141103110	Carpets and rugs, tufted only or tufted and finished in the same establishment .mil sq yd.	109	X	1 440.3	9 497 680	128	X	1 321.3	8 091 638
31411032	Carpets and rugs, finished only	N	X	X	614 885	N	X	X	N
3141103220	Carpets and rugs, finished only .mil sq yd.	27	X	94.8	614 885	25	X	158.7	706 724
3141103Y	Tufted carpets and rugs, nsk	N	X	X	4 331	N	X	X	N
3141103YVW	Tufted carpets and rugs, nsk	N	X	X	4 331	N	X	X	22 375
3141105	Carpets, rugs, and mats, nec (knitted, braided, hooked, needle-punched, woven paper yarn, coconut fiber, etc.) @	N	X	X	389 791	N	X	X	333 997
31411050	Carpets, rugs, and mats, nec (knitted, braided, hooked, needle-punched, woven paper yarn, coconut fiber, etc.)	N	X	X	389 791	N	X	X	N
3141105000	Carpets, rugs, and mats, nec (knitted, braided, hooked, needle-punched, woven paper yarn, coconut fiber, etc.) .mil sq yd.	31	X	S	389 791	31	X	89.2	333 997
314110W	Carpet and rugs, nsk, total	N	X	X	179 905	N	X	X	78 541
314110WY	Carpet and rugs, nsk, total	N	X	X	179 905	N	X	X	N
314110WYVW	Carpet and rugs, nsk, for nonadministrative-record establishments	N	X	X	7 255	N	X	X	16 876
314110WYVW	Carpet and rugs, nsk, for administrative-record establishments	N	X	X	172 650	N	X	X	61 665

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3141101	WOVEN CARPETS AND RUGS @		
	United States	345 497	285 103
3141103	TUFTED CARPETS AND RUGS @		
	United States	10 116 896	8 820 737
	Alabama	303 236	129 655
	California	736 942	526 519
	Georgia	7 518 030	6 788 862
	North Carolina	435 553	N
	Rhode Island	26 164	N
	South Carolina	182 284	282 145
	Tennessee	227 861	122 627
3141105	CARPETS, RUGS, AND MATS, NEC (KNITTED, BRAIDED, HOOKED, NEEDLE-PUNCHED, WOVEN PAPER YARN, COCONUT FIBER, ETC.) @		
	United States	389 791	333 997
	Georgia	127 575	70 560

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314110	CARPET & RUG MILLS				
31311123	Spun wool and chiefly wool yarnsmil lb..	31.6	84 414	11.1	29 512
31311111	Spun nylon yarnmil lb..	674.3	1 526 434	^P 802.7	1 559 880
31311113	Spun polyester yarnsmil lb..	^P 82.1	140 784	^P 123.4	153 730
31311117	Spun polypropylene yarnsmil lb..	S	114 577	^q 104.2	121 147
31311119	All other spun yarnsmil lb..	^P 19.2	40 355	^P 20.3	35 805
32522211	Nylon filament yarnsmil lb..	1 096.5	2 203 823	^P 480.8	1 006 703
32522221	Polyester filament yarnsmil lb..	S	42 466	^P 4.6	6 765
32522231	Polypropylene filament yarnsmil lb..	506.9	464 747	188.3	231 960
32522207	All other filament yarnsmil lb..	D	D	^P 26.2	38 688
32520001	All other manmade fiber staple, and towmil lb..	D	D	N	N
32522215	Nylon staple and towmil lb..	^P 64.5	121 815	D	D
32522217	Polypropylene staple and towmil lb..	39.1	82 266	^P 44.7	36 136
32522223	Polyester staple and towmil lb..	^q 27.1	35 091	27.0	15 962
0099829	All other fibers (silk, jute, reused wool, waste, etc.)mil lb..	2.0	23 820	D	D
31320017	Polypropylene fiber fabrics primary backingmil sq yd..	847.4	316 604	^q 659.6	190 525
31320019	All other manmade fiber fabrics primary backingmil sq yd..	^q 232.6	137 709	^P 106.8	73 300
31320021	All other fabrics (except manmade) primary backingmil sq yd..	2.2	1 690	4.1	5 061
31320031	Jute secondary backing	X	79 574	S	80 022
32620003	Foam or high density rubber cushion secondary backing	X	26 487	30.2	13 670
32610041	Other cushion secondary backings (including vinyl, polyurethane, etc.)	X	56 182	S	95 884
31320023	Woven and nonwoven manmade fiber fabrics secondary backing	X	193 489	^P 399.1	107 350
31320025	All other secondary backing (including scrim, solid vinyl, etc.)	X	42 928	^q 94.1	47 441
32513003	Dyes, lakes, and toners	X	190 546	X	185 494
00970099	All other materials and components, parts, containers, and supplies	X	679 522	X	710 999
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	123 030	X	93 831

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314110 CARPET AND RUG MILLS

This U.S. industry comprises establishments primarily engaged in (1) manufacturing woven, tufted, and other carpets and rugs, such as art squares, floor mattings, needlepunch carpeting, and door mats and mattings, from textile materials or from twisted paper, grasses, reeds, sisal, jute, or rags and/or (2) finishing carpets and rugs.

The data published with NAICS code 314110 include the following SIC industry:

2273 Carpets and rugs

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3141101	For additional detail, see Current Industrial Report MA314Q, Carpets and Rugs.
@3141103	For additional detail, see Current Industrial Report MA314Q, Carpets and Rugs.
@3141105	For additional detail, see Current Industrial Report MA314Q, Carpets and Rugs.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101	22731	22731	31412974B1 pt	2392442 pt	2392443	3149915	22983	22983
3141101000	2273100	2273100	31412974C1 pt	2392444 pt	2392446	3149915111	2298311	2298311
3141103	22732	22732	31412974D1 pt	2392449 pt	2392450	3149915121	2298325	2298325
3141103110	2273220	2273220	31412974E1	2392454	2392454	3149915131	2298398	2298398
3141103220	2273240	2273240	31412974F1	2392463	2392463	3149915YVW	2298300	2298300
3141103YVW	2273200	2273200	31412974H1	2392465	2392465	314991W	22980	22980
3141105	22733	22733	31412974J1	2392469	2392469	314991WYVW	2298000	2298000
3141105000	2273300	2273300	31412974K1	2392499	2392499	314991WYVY	2298002	2298002
314110W	22730	22730	3141297YVW	2392400 pt	2392400 pt	3149920	22960	22960
314110WYVW	2273000	2273000	314129W	23920 pt	23920 pt	3149920100	2296000 pt	2296000 pt
314110WYVY	2273002	2273002	314129WYVW	2392000 pt	2392000 pt	3149920YVW	2296000 pt	2296000 pt
3141210 pt	23910	23910	314129WYVY	2392002 pt	2392002 pt	3149920YVY	2296002	2296002
3141210 pt	57140	57140	314129WYVY	2392002 pt	2392002 pt	3149991	22994	22994
3141210111	2391010	2391010	314129WYVY	2392002 pt	2392002 pt	3149991111	2299411	2299411
3141210221	2391012	2391012	314129WYVY	2392002 pt	2392002 pt	3149991121	2299413	2299413
3141210231	2391019	2391019	314129WYVY	2392002 pt	2392002 pt	3149991131	2299441	2299441
3141210241	2391023	2391023	314129WYVY	2392002 pt	2392002 pt	3149991YVW	2299400	2299400
3141210251	2391025	2391025	314129WYVY	2392002 pt	2392002 pt	3149993	22995	22995
3141210361	2391052	2391052	314129WYVY	2392002 pt	2392002 pt	3149993111	2299517	2299517
3141210371	2391059	2391059	314129WYVY	2392002 pt	2392002 pt	3149993121	2299519	2299519
3141210381	2391063	2391063	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299532
3141210391	2391062	2391062	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299533
31412104A1	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993141	2299533	2299533
3141210YVW pt	2391000	2391000	314129WYVY	2392002 pt	2392002 pt	3149993151	2299557	2299557
3141210YVW pt	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993YVW	2299500	2299500
3141210YVY pt	2391002	2391002	314129WYVY	2392002 pt	2392002 pt	3149995	23952	23952
3141210YVY pt	5714002	5714002	314129WYVY	2392002 pt	2392002 pt	3149995100	2395200	2395200
3141291	23921	23921	314129WYVY	2392002 pt	2392002 pt	3149997	23963 pt	23963 pt
3141291010	2392111	2392111	314129WYVY	2392002 pt	2392002 pt	3149997111	2396314	2396312
3141291020	2392114	2392114	314129WYVY	2392002 pt	2392002 pt	3149997121	2396333	2396333
3141291030	2392116	2392116	314129WYVY	2392002 pt	2392002 pt	3149997131	2396345	2396345
3141291040	2392120	2392120	314129WYVY	2392002 pt	2392002 pt	3149997YVW	2396300	2396300
3141291050	2392121	2392121	314129WYVY	2392002 pt	2392002 pt	3149999 pt	23990 pt	23990 pt
3141291060	2392113	2392113	314129WYVY	2392002 pt	2392002 pt	3149999 pt	39999 pt	39999 pt
3141291070	2392115	2392115	314129WYVY	2392002 pt	2392002 pt	3149999111	2399015	2399015
3141291YVW	2392100	2392100	314129WYVY	2392002 pt	2392002 pt	3149999231	2399041	2399041
3141293	23922	23922	314129WYVY	2392002 pt	2392002 pt	3149999371	2399097	2399097
3141293000	2392200	2392200	314129WYVY	2392002 pt	2392002 pt	3149999421	2399031	2399031
3141295	23923	23923	314129WYVY	2392002 pt	2392002 pt	3149999441	2399085	2399085
3141295010	2392310	2392310	314129WYVY	2392002 pt	2392002 pt	3149999451	2399093	2399093
3141295020	2392313	2392313	314129WYVY	2392002 pt	2392002 pt	3149999461	2399095	2399095
3141295YVW	2392300	2392300	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399099	2399098 pt
3141297	23924 pt	23924 pt	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399095 pt
3141297101	2392409	2392409	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399099 pt
3141297210	2392412	2392412	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399000 pt	2399000 pt
3141297220	2392414	2392414	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399002 pt	2399002 pt
3141297230	2392416	2392416	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973J1	2392455	2392455	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973K1	2392456	2392456	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973L1	2392457	2392457	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973M1	2392459	2392459	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297440	2392494	2392494	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297451	2392433	2392433	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297461	2392435	2392435	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297471	2392436	2392436	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297481	2392437	2392437	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392438	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392440	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974B1 pt	2392442 pt	2392441	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt

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Manufacturing

Industry Series



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Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314121	Curtain & drapery mills	2 015	2 087	25 524	452 770	19 928	35 288	276 509	928 845	907 773	1 824 114	32 251
239100	Curtains & draperies	N	1 003	21 037	377 049	16 492	29 692	233 018	783 825	770 887	1 544 427	27 223
571401	Drapery, curtain, and upholstery stores (pt)	N	1 084	4 487	75 721	3 436	5 596	43 491	145 020	136 886	279 687	5 028

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314121, CURTAIN & DRAPERY MILLS												
United States	2	2 087	187	25 524	452 770	19 928	35 288	276 509	928 845	907 773	1 824 114	32 251
Alabama	-	39	7	647	10 184	537	915	5 924	16 531	20 811	37 710	212
Arizona	4	34	-	151	2 297	123	213	1 403	5 979	3 960	9 846	83
California	3	276	19	1 880	32 799	1 340	2 302	17 685	56 151	49 329	105 752	1 771
Florida	2	155	6	1 001	15 324	834	1 299	10 063	29 308	26 651	55 894	882
Georgia	1	61	11	1 736	27 414	1 118	1 975	13 565	47 791	36 803	83 081	1 440
Indiana	-	43	6	588	10 805	498	945	7 688	16 421	15 925	32 422	573
Massachusetts	6	64	14	1 713	30 829	1 405	2 751	20 843	68 124	70 689	137 764	1 583
Michigan	5	66	-	230	3 210	187	284	1 942	5 924	5 700	11 577	210
Minnesota	3	35	1	184	2 563	140	223	1 500	4 837	3 808	8 552	233
New Jersey	-	52	6	645	13 402	515	991	7 923	27 664	23 390	51 853	1 681
New York	1	126	18	2 831	56 161	2 275	4 010	34 791	104 037	139 486	236 448	6 115
North Carolina	2	81	14	3 483	62 547	2 842	5 536	44 260	102 409	105 929	208 285	2 611
Pennsylvania	-	84	8	883	14 266	722	1 152	8 936	36 641	31 600	70 064	507
Rhode Island	-	9	1	103	1 517	95	160	1 240	4 107	3 740	7 808	26
South Carolina	1	29	5	868	14 798	714	1 212	10 671	29 294	32 316	59 675	1 083
Texas	-	133	15	2 646	43 871	1 990	3 534	27 489	70 146	103 247	170 424	1 978

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314121, CURTAIN & DRAPERY MILLS		314121, CURTAIN & DRAPERY MILLS—Con.	
Companies ¹	number.. 2 015	Value added	\$1,000.. 928 845
All establishments	number.. 2 087	Total inventories, beginning of year	\$1,000.. 246 333
Establishments with 1 to 19 employees	number.. 1 900	Finished goods inventories, beginning of year	\$1,000.. 80 425
Establishments with 20 to 99 employees	number.. 139	Work-in-process inventories, beginning of year	\$1,000.. 47 293
Establishments with 100 employees or more	number.. 48	Materials and supplies inventories, beginning of year	\$1,000.. 118 615
All employees	number.. 25 524	Total inventories, end of year	\$1,000.. 261 803
Total compensation ²	\$1,000.. 552 120	Finished goods inventories, end of year	\$1,000.. 89 245
Annual payroll	\$1,000.. 452 770	Work-in-process inventories, end of year	\$1,000.. 50 977
Total fringe benefits	\$1,000.. 99 350	Materials and supplies inventories, end of year	\$1,000.. 121 581
Production workers, average for year	number.. 19 928	Gross book value of total assets at beginning of year	\$1,000.. 339 056
Production workers on March 12	number.. 19 893	Total capital expenditures (new and used)	\$1,000.. 32 251
Production workers on May 12	number.. 20 147	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 7 537
Production workers on August 12	number.. 19 828	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 24 714
Production workers on November 12	number.. 19 844	Total retirements ²	\$1,000.. 13 787
Production-worker hours	1,000.. 35 288	Gross book value of total assets at end of year	\$1,000.. 357 520
Production-worker wages	\$1,000.. 276 509	Total depreciation during year ²	\$1,000.. 32 432
Total cost of materials	\$1,000.. 907 773	Total rental payments ²	\$1,000.. 52 903
Cost of materials, parts, containers, etc., consumed	\$1,000.. 790 859	Buildings and other structures rental payments ²	\$1,000.. 25 081
Cost of resales	\$1,000.. 63 388	Machinery and equipment rental payments ²	\$1,000.. 27 822
Cost of fuels	\$1,000.. 3 422	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 683
Cost of purchased electricity	\$1,000.. 7 702	Response coverage ratio ⁴	percent.. 66
Cost of contract work	\$1,000.. 42 402	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 975
Quantity of electricity purchased for heat and power	1,000 kWh.. 115 400	Response coverage ratio ⁴	percent.. 66
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 3 209
Total value of shipments	\$1,000.. 1 824 114	Response coverage ratio ⁴	percent.. 66
Primary products value of shipments	\$1,000.. 1 540 580	Cost of purchased legal services ³	\$1,000.. 4 145
Secondary products value of shipments	\$1,000.. 127 969	Response coverage ratio ⁴	percent.. 66
Total miscellaneous receipts	\$1,000.. 155 565	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 934
Value of resales	\$1,000.. 99 149	Response coverage ratio ⁴	percent.. 66
Contract receipts	\$1,000.. 54 808	Cost of purchased advertising services ³	\$1,000.. 19 203
Other miscellaneous receipts	\$1,000.. 1 608	Response coverage ratio ⁴	percent.. 66
Primary products specialization ratio	percent.. 92	Cost of purchased software and other data processing services ³	\$1,000.. 936
Value of primary products shipments made in all industries	\$1,000.. 1 651 252	Response coverage ratio ⁴	percent.. 66
Value of primary products shipments made in this industry	\$1,000.. 1 540 580	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 653
Value of primary products shipments made in other industries	\$1,000.. 110 672	Response coverage ratio ⁴	percent.. 66
Coverage ratio	percent.. 93		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314121, CURTAIN & DRAPERY MILLS												
All establishments	2	2 087	187	25 524	452 770	19 928	35 288	276 509	928 845	907 773	1 824 114	32 251
Establishments with 1 to 4 employees	5	1 361	—	2 511	38 244	2 127	3 280	22 545	79 706	79 136	158 258	2 470
Establishments with 5 to 9 employees	4	365	—	2 371	38 869	1 855	3 178	23 278	73 589	66 072	139 319	2 272
Establishments with 10 to 19 employees	2	174	—	2 287	40 227	1 694	2 907	23 506	71 752	62 052	133 525	2 830
Establishments with 20 to 49 employees	2	98	98	2 873	49 754	2 181	3 759	29 580	81 978	72 882	155 363	2 802
Establishments with 50 to 99 employees	—	41	41	2 733	49 234	2 042	3 586	27 034	86 198	102 288	187 755	1 704
Establishments with 100 to 249 employees	1	35	35	5 466	97 457	4 403	7 682	64 010	186 323	202 491	390 787	5 146
Establishments with 250 to 499 employees	—	6	6	1 822	32 709	1 363	2 436	20 636	68 243	90 549	157 699	2 603
Establishments with 500 to 999 employees	1	5	5	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	2	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	959	—	2 464	32 587	2 054	3 406	19 161	61 894	63 926	125 317	2 204

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314121	Curtain & drapery mills ...	2 087	25 524	452 770	19 928	35 288	276 509	928 845	907 773	1 824 114	32 251

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314121	Curtains and draperies	N	X	X	1 651 252	N	X	X	N
3141210	Curtains and draperies, including custom (made from purchased fabrics)	N	X	X	1 651 252	N	X	X	N
31412101	Curtains and draperies, knit, except lace	N	X	X	113 570	N	X	X	N
314121011	Curtains and draperies, knit, except lace	36	X	X	113 570	49	X	N	87 167
31412102	Woven window curtains, all fabrics	N	X	X	401 516	N	X	N	N
3141210221	Woven window curtains, wholly or chiefly cotton	48	X	X	119 387	48	X	N	112 162
3141210231	Woven window curtains, rayon and/or acetate fabrics	22	X	X	103 934	23	X	N	61 735
3141210241	Woven window curtains, all other manmade fiber fabrics, including glass	30	X	X	147 688	29	X	N	165 290
3141210251	Woven window curtains, other materials	13	X	X	30 507	20	X	N	51 934
31412103	Woven draperies, all fabrics	N	X	X	567 174	N	X	X	N
3141210361	Woven draperies, wholly or chiefly cotton	101	X	X	107 693	88	X	N	100 890
3141210371	Woven draperies, rayon and/or acetate fabrics	43	X	X	110 403	60	X	N	93 071
3141210381	Woven draperies, all other manmade fiber fabrics, including glass	73	X	X	281 790	61	X	N	175 497
3141210391	Woven draperies, other materials	28	X	X	67 288	39	X	N	62 115
31412104	Custom drapes and curtains	N	X	X	270 357	N	X	X	N
31412104A1	Custom drapes and curtains	534	X	X	270 357	N	X	X	N
3141210Y	Curtains and draperies, nsk	N	X	X	298 635	N	X	X	N
3141210YWW	Curtains and draperies, nsk, for nonadministrative-record establishments	N	X	X	184 507	N	X	X	N
3141210YWY	Curtains and draperies, nsk, for administrative-record establishments	N	X	X	114 128	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314121	CURTAIN & DRAPERY MILLS				
31321003	Cotton broadwoven fabrics (piece goods)	X	60 889	X	N
31321009	Rayon and acetate broadwoven fabrics (piece goods)	X	65 738	X	N
31321013	Polyester broadwoven fabrics (piece goods)	X	120 018	X	N
31321015	Nylon broadwoven fabrics (piece goods)	X	8 565	X	N
31321021	Other broadwoven fabrics (piece goods)	X	71 521	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	1 019	X	N
31311003	Yarn, all fibers	X	40 034	X	N
31332001	Plastics coated, impregnated, or laminated fabrics	X	10 947	X	N
32520003	Manmade fibers, staple, and tow	X	852	X	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	7 546	X	N
00970099	All other materials and components, parts, containers, and supplies	X	124 458	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	281 272	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314121 CURTAIN AND DRAPERY MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing window curtains and draperies from purchased fabrics or sheet goods. The curtains and draperies may be made on a stock or custom basis for sale to individual retail customers.

The data published with NAICS code 314121 include the following SIC industries:

2391 Curtains and draperies
5714 Drapery and upholstery stores (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101.....	22731.....	22731.....	31412974B1 pt.....	2392442 pt.....	2392443.....	3149915.....	22983.....	22983.....
3141101000.....	2273100.....	2273100.....	31412974C1 pt.....	2392444 pt.....	2392446.....	3149915111.....	2298311.....	2298311.....
3141103.....	22732.....	22732.....	31412974D1 pt.....	2392449 pt.....	2392450.....	3149915121.....	2298325.....	2298325.....
3141103110.....	2273220.....	2273220.....	31412974E1.....	2392454.....	2392454.....	3149915131.....	2298398.....	2298398.....
3141103220.....	2273240.....	2273240.....	31412974F1.....	2392463.....	2392463.....	3149915YVW.....	2298300.....	2298300.....
3141103YVW.....	2273200.....	2273200.....	31412974H1.....	2392465.....	2392465.....	314991W.....	22980.....	22980.....
3141105.....	22733.....	22733.....	31412974J1.....	2392469.....	2392469.....	314991WYVW.....	2298000.....	2298000.....
3141105000.....	2273300.....	2273300.....	31412974K1.....	2392499.....	2392499.....	314991WYVY.....	2298002.....	2298002.....
314110W.....	22730.....	22730.....	3141297YVW.....	2392400 pt.....	2392400 pt.....	3149920.....	22960.....	22960.....
314110WYVW.....	2273000.....	2273000.....	314129W.....	239200 pt.....	239200 pt.....	3149920100.....	2296000 pt.....	2296000 pt.....
314110WYVY.....	2273002.....	2273002.....	314129WYVW.....	2392000 pt.....	2392000 pt.....	3149920YVW.....	2296000 pt.....	2296000 pt.....
3141210 pt.....	23910.....	23910.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149920YVY.....	2296002.....	2296002.....
3141210 pt.....	57140.....	57140.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991.....	22994.....	22994.....
3141210111.....	2391010.....	2391010.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991111.....	2299411.....	2299411.....
3141210221.....	2391012.....	2391012.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991121.....	2299413.....	2299413.....
3141210231.....	2391019.....	2391019.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991131.....	2299441.....	2299441.....
3141210241.....	2391023.....	2391023.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991YVW.....	2299400.....	2299400.....
3141210251.....	2391025.....	2391025.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993.....	22995.....	22995.....
3141210361.....	2391052.....	2391052.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993111.....	2299517.....	2299517.....
3141210371.....	2391059.....	2391059.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993121.....	2299519.....	2299519.....
3141210381.....	2391063.....	2391063.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
3141210391.....	2391062.....	2391062.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
31412104A1.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993141.....	2299533.....	2299533.....
3141210YVW pt.....	2391000.....	2391000.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993151.....	2299557.....	2299557.....
3141210YVW pt.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993YVW.....	2299500.....	2299500.....
3141210YVY pt.....	2391002.....	2391002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995.....	23952.....	23952.....
3141210YVY pt.....	5714002.....	5714002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995100.....	2395200.....	2395200.....
3141291.....	23921.....	23921.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997.....	23963 pt.....	23963 pt.....
3141291010.....	2392111.....	2392111.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997111.....	2396314.....	2396314.....
3141291020.....	2392114.....	2392114.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997121.....	2396333.....	2396333.....
3141291030.....	2392116.....	2392116.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997131.....	2396345.....	2396345.....
3141291040.....	2392120.....	2392120.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997YVW.....	2396300.....	2396300.....
3141291050.....	2392121.....	2392121.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	23990 pt.....	23990 pt.....
3141291060.....	2392113.....	2392113.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	39999 pt.....	39999 pt.....
3141291070.....	2392115.....	2392115.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999111.....	2399015.....	2399015.....
3141291YVW.....	2392100.....	2392100.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999231.....	2399041.....	2399041.....
3141293.....	23922.....	23922.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999371.....	2399097.....	2399097.....
3141293000.....	2392200.....	2392200.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999421.....	2399031.....	2399031.....
3141295.....	23923.....	23923.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999441.....	2399085.....	2399085.....
3141295010.....	2392310.....	2392310.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999451.....	2399093.....	2399093.....
3141295020.....	2392313.....	2392313.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999461.....	2399095.....	2399095.....
3141295YVW.....	2392300.....	2392300.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399099.....	2399099 pt.....
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3141297101.....	2392409.....	2392409.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399995 pt.....	2399995 pt.....
3141297210.....	2392412.....	2392412.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399000 pt.....	2399000 pt.....
3141297220.....	2392414.....	2392414.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399002 pt.....	2399002 pt.....
3141297230.....	2392416.....	2392416.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973J1.....	2392455.....	2392455.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973K1.....	2392456.....	2392456.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973L1.....	2392457.....	2392457.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973M1.....	2392459.....	2392459.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297440.....	2392494.....	2392494.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297451.....	2392433.....	2392433.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297461.....	2392435.....	2392435.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297471.....	2392436.....	2392436.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297481.....	2392437.....	2392437.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412974A1 pt.....	2392439 pt.....	2392438.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412974A1 pt.....	2392439 pt.....	2392440.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412974B1 pt.....	2392442 pt.....	2392441.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....

Other Household Textile Product Mills

1997

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314129	Other household textile product mills	670	765	49 187	982 851	42 100	83 392	723 915	3 138 627	3 959 517	6 964 105	115 375
239210	Housefurnishings, n.e.c. (pt) ...	N	765	49 187	982 851	42 100	83 392	723 915	3 138 627	3 959 517	6 964 105	115 375

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314129, OTHER HOUSEHOLD TEXTILE PRODUCT MILLS												
United States	-	765	356	49 187	982 851	42 100	83 392	723 915	3 138 627	3 959 517	6 964 105	115 375
Alabama	-	13	8	2 502	53 310	2 266	4 945	45 254	287 891	325 934	574 468	10 679
California	2	123	52	5 140	93 643	4 437	8 125	67 246	215 895	337 220	541 776	6 951
Florida	1	44	9	1 487	27 599	1 265	2 342	21 488	67 568	74 475	140 586	6 801
Georgia	-	47	29	4 003	74 096	3 384	6 094	51 478	371 313	291 939	660 136	8 633
Illinois	1	26	13	1 254	26 205	883	1 769	15 904	79 601	71 909	154 113	1 191
Indiana	-	10	8	614	10 095	555	841	7 243	28 436	46 422	86 540	600
Kentucky	-	12	6	1 238	29 198	1 003	1 836	18 456	82 800	69 719	148 350	1 258
Massachusetts	-	13	6	393	8 595	332	540	4 625	33 018	28 419	59 753	289
Minnesota	2	8	4	494	8 232	406	799	6 274	12 817	17 745	30 672	436
Missouri	1	16	8	677	10 154	540	1 018	7 648	57 435	43 315	106 340	987
New Jersey	-	40	24	1 686	32 947	1 375	2 634	19 760	97 804	104 816	200 566	2 300
New York	1	78	23	1 532	36 007	1 193	1 985	15 723	93 001	185 589	278 594	1 711
North Carolina	-	67	44	10 331	221 360	9 173	20 363	174 739	651 079	668 591	1 317 901	23 142
Ohio	-	19	10	1 164	23 298	915	1 644	14 566	42 928	52 986	100 264	1 100
Pennsylvania	2	31	13	1 897	37 887	1 491	2 977	25 906	87 067	182 305	272 361	3 797
South Carolina	-	27	21	6 400	139 331	5 785	11 664	116 294	473 093	911 495	1 312 892	20 667
Texas	-	43	24	2 140	33 667	1 864	3 304	26 625	92 892	121 687	205 069	3 190
Virginia	-	9	6	895	14 055	810	1 532	10 322	37 723	82 308	119 521	5 581
Washington	1	6	2	160	6 605	103	276	4 674	8 508	12 419	20 368	166
Wisconsin	-	9	5	398	9 809	315	617	6 276	39 144	22 322	59 186	7 327

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314129, OTHER HOUSEHOLD TEXTILE PRODUCT MILLS		314129, OTHER HOUSEHOLD TEXTILE PRODUCT MILLS—Con.	
Companies ¹	number.. 670	Value added	\$1,000.. 3 138 627
All establishments	number.. 765	Total inventories, beginning of year	\$1,000.. 1 061 370
Establishments with 1 to 19 employees	number.. 409	Finished goods inventories, beginning of year	\$1,000.. 506 548
Establishments with 20 to 99 employees	number.. 218	Work-in-process inventories, beginning of year	\$1,000.. 212 716
Establishments with 100 employees or more	number.. 138	Materials and supplies inventories, beginning of year	\$1,000.. 342 106
All employees	number.. 49 187	Total inventories, end of year	\$1,000.. 1 191 920
Total compensation ²	\$1,000.. 1 187 194	Finished goods inventories, end of year	\$1,000.. 588 329
Annual payroll	\$1,000.. 982 851	Work-in-process inventories, end of year	\$1,000.. 264 974
Total fringe benefits	\$1,000.. 204 343	Materials and supplies inventories, end of year	\$1,000.. 338 617
Production workers, average for year	number.. 42 100	Gross book value of total assets at beginning of year	\$1,000.. 964 366
Production workers on March 12	number.. 42 030	Total capital expenditures (new and used)	\$1,000.. 115 375
Production workers on May 12	number.. 42 004	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 23 658
Production workers on August 12	number.. 41 954	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 91 717
Production workers on November 12	number.. 42 412	Total retirements ²	\$1,000.. 30 989
Production-worker hours	1,000.. 83 392	Gross book value of total assets at end of year	\$1,000.. 1 048 752
Production-worker wages	\$1,000.. 723 915	Total depreciation during year ²	\$1,000.. 73 065
Total cost of materials	\$1,000.. 3 959 517	Total rental payments ²	\$1,000.. 47 627
Cost of materials, parts, containers, etc., consumed	\$1,000.. 3 675 743	Buildings and other structures rental payments ²	\$1,000.. 29 142
Cost of resales	\$1,000.. 110 961	Machinery and equipment rental payments ²	\$1,000.. 18 485
Cost of fuels	\$1,000.. 17 102	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 4 460
Cost of purchased electricity	\$1,000.. 36 835	Response coverage ratio ⁴	percent.. 72
Cost of contract work	\$1,000.. 118 876	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 12 475
Quantity of electricity purchased for heat and power	1,000 kWh.. 686 423	Response coverage ratio ⁴	percent.. 72
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 7 039
Total value of shipments	\$1,000.. 6 964 105	Response coverage ratio ⁴	percent.. 72
Primary products value of shipments	\$1,000.. 6 238 303	Cost of purchased legal services ³	\$1,000.. 3 026
Secondary products value of shipments	\$1,000.. 430 067	Response coverage ratio ⁴	percent.. 72
Total miscellaneous receipts	\$1,000.. 295 735	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 618
Value of resales	\$1,000.. 112 593	Response coverage ratio ⁴	percent.. 72
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 5 507
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 72
Primary products specialization ratio	percent.. 93	Cost of purchased software and other data processing services ³	\$1,000.. 2 048
Value of primary products shipments made in all industries	\$1,000.. 6 572 807	Response coverage ratio ⁴	percent.. 72
Value of primary products shipments made in this industry	\$1,000.. 6 238 303	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 982
Value of primary products shipments made in other industries	\$1,000.. 334 504	Response coverage ratio ⁴	percent.. 72
Coverage ratio	percent.. 94		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314129, OTHER HOUSEHOLD TEXTILE PRODUCT MILLS												
All establishments	-	765	356	49 187	982 851	42 100	83 392	723 915	3 138 627	3 959 517	6 964 105	115 375
Establishments with 1 to 4 employees	8	213	-	430	6 897	376	628	5 087	21 146	24 938	45 956	787
Establishments with 5 to 9 employees	7	99	-	667	11 575	545	912	7 849	28 558	33 291	63 398	973
Establishments with 10 to 19 employees	5	97	-	1 327	24 401	1 063	1 815	15 871	58 490	69 158	128 346	2 206
Establishments with 20 to 49 employees	2	135	135	4 372	76 352	3 588	6 175	51 780	193 961	200 741	404 169	6 312
Establishments with 50 to 99 employees	-	83	83	6 003	112 039	4 939	9 389	77 655	282 987	391 223	661 490	11 466
Establishments with 100 to 249 employees	1	90	90	13 092	247 191	10 968	20 201	167 330	745 521	941 430	1 674 500	27 989
Establishments with 250 to 499 employees	-	31	31	10 937	221 326	9 347	19 513	164 999	710 182	878 605	1 577 574	31 749
Establishments with 500 to 999 employees	-	14	14	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	3	3	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	237	-	1 345	19 992	1 154	1 828	14 766	53 783	67 372	121 154	2 153

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314129	Other household textile product mills	765	49 187	982 851	42 100	83 392	723 915	3 138 627	3 959 517	6 964 105	115 375
3141291	Bedsprads and bedsets	43	3 041	51 707	2 621	4 613	38 933	108 495	102 562	210 288	3 952
3141293	Sheets and pillowcases	24	5 922	135 335	5 421	11 197	114 226	572 969	1 118 283	1 573 147	20 752
3141295	Towels and washcloths	21	4 210	87 287	3 796	8 319	74 730	541 383	351 974	883 531	20 566
3141297	Shower bath curtains, comforters and quilts, pillows, blankets, mattress protectors, table linen, and slipcovers	296	30 947	625 157	25 781	50 968	431 875	1 741 757	2 174 428	3 896 196	57 373

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314129	Household furnishings	N	X	X	6 572 807	N	X	X	N
3141291	Bedspreads and bedsets	N	X	X	272 017	N	X	X	443 678
31412910	Bedspreads and bedsets	N	X	X	204 676	N	X	X	N
3141291010	Knit or crocheted bedspreads \$	6	X	X	2 052	7	X	X	5 924
3141291020	Tailored bedspreads, wholly or chiefly cotton fabrics, quilted \$	41	X	X	51 570	49	X	S	72 607
3141291030	Tailored bedspreads, wholly or chiefly manmade fabrics, quilted \$	33	X	X	84 901	41	X	S	135 174
3141291040	Tailored bedspreads, wholly or chiefly cotton fabrics, nonquilted \$	8	X	X	3 686	7	X	S	3 048
3141291050	Tailored bedspreads, wholly or chiefly manmade fabrics, nonquilted \$	4	X	X	6 576	6	X	S	42 391
3141291060	Nontailored bedspreads, wholly or chiefly cotton fabrics \$	13	X	X	29 209	14	X	1.8	136 111
3141291070	Nontailored bedspreads, wholly or chiefly manmade fabrics \$	9	X	X	26 682	13	X	P2.6	26 111
3141291Y	Bedspreads and bedsets, nsk	N	X	X	67 341	N	X	X	N
3141291YVV	Bedspreads and bedsets, nsk	N	X	X	67 341	N	X	X	22 312
3141293	Sheets and pillowcases @	N	X	X	1 448 312	N	X	X	1 001 944
31412930	Sheets and pillowcases, including crib-sizes	N	X	X	1 448 312	N	X	X	N
3141293000	Sheets and pillowcases, including crib-sizes \$	49	X	X	1 448 312	43	X	X	1 001 944
3141295	Towels and washcloths @	N	X	X	849 293	N	X	X	611 425
31412950	Towels and washcloths	N	X	X	813 840	N	X	X	N
3141295010	Terry towels and washcloths, including other pile \$	23	X	X	768 599	20	X	X	D
3141295020	Other towels and washcloths, including huck and crash \$	9	X	X	45 241	5	X	X	D
3141295Y	Towels and washcloths, nsk	N	X	X	35 453	N	X	X	N
3141295YVV	Towels and washcloths, nsk	N	X	X	35 453	N	X	X	45 204
3141297	Shower bath curtains, comforters and quilts, pillows, blankets, mattress protectors, table linen, and slip covers	N	X	X	3 772 582	N	X	X	N
31412971	Shower bath curtains, including plastics, unsupported film, coated fabrics, and all others	N	X	X	147 677	N	X	X	N
3141297101	Shower bath curtains, including plastics, unsupported film, coated fabrics, and all others	34	X	X	147 677	24	X	13.6	156 325
31412972	Comforters and quilts	N	X	X	953 481	N	X	X	N
3141297210	Quilted comforters and quilts, wholly or chiefly cotton (except down-filled) \$	32	X	X	275 403	26	X	13.5	285 375
3141297220	Quilted comforters and quilts, wholly or chiefly manmade (except down-filled) \$	26	X	X	549 071	37	X	P20.0	481 661
3141297230	Quilted comforters and quilts, down-filled \$	10	X	X	129 007	12	X	S	104 649
31412973	Pillows, including bed, fancy, and cushions, including foam	N	X	X	1 015 688	N	X	X	N
31412973J1	Bed pillows, manmade fiber-filled	39	X	X	370 678	41	X	S	260 756
31412973K1	Bed pillows, other materials, including foam	25	X	X	116 100	30	X	S	104 867
31412973L1	Fancy pillows and cushions, foam rubber	29	X	X	64 988	38	X	80.0	74 284
31412973M1	Fancy pillows and cushions, other materials	83	X	X	463 922	80	X	S	256 245
31412974	Blankets, mattress protectors, table linen, and slip covers	N	X	X	1 621 223	N	X	X	N
3141297440	Blankets \$	24	X	X	338 953	22	X	P1.0	115 241
3141297451	Quilted mattress protectors, including mattress covers, wholly or chiefly cotton	9	X	X	98 635	7	X	S	65 346
3141297461	Quilted mattress protectors, including mattress covers, all other fabrics	17	X	X	123 469	18	X	57.8	107 583
3141297471	Other quilted products	18	X	X	40 099	15	X	X	17 147
3141297481	Table linen, including tablecloths, napkins, and placemats, knit or crocheted	20	X	X	82 504	7	X	X	15 500
31412974A1	Table linen, including tablecloths, napkins, and placemats, wholly or chiefly cotton fabrics	25	X	X	190 837	N	X	X	N
31412974B1	Table linen, including tablecloths, napkins, and placemats, wholly or chiefly linen fabrics	7	X	X	D	N	X	X	N
31412974C1	Table linen, including tablecloths, napkins, and placemats, wholly or chiefly manmade fabrics	20	X	X	64 963	N	X	X	N
31412974D1	Table linen, including tablecloths, napkins, and placemats, other materials, including plastics	7	X	X	45 730	N	X	X	N
31412974E1	Other table linen, including dresser covers and scarves, doilies, tray cloths, including plastics (except lace)	8	X	X	23 499	4	X	X	24 731

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314129	Household furnishings—Con.								
3141297	Shower bath curtains, comforters and quilts, pillows, blankets, mattress protectors, table linen, and slip covers—Con.								
31412974	Blankets, mattress protectors, table linen, and slip covers—Con.								
31412974F1	Furniture slipcovers made from fabrics, plastics, and other material (except paper products)	14	X	X	222 919	16	X	P9.4	101 094
31412974H1	Mattress slipcovers, nonquilted	7	X	X	12 404	4	X	D	D
31412974J1	Other slipcovers	14	X	X	90 624	10	X	20.9	52 190
31412974K1	All other household furnishings	61	X	X	D	67	X	X	213 312
3141297Y	Shower bath curtains, comforters and quilts, pillows, blankets, mattress protectors, table linen, and slip covers, nsk	N	X	X	34 513	N	X	X	N
3141297YVV	Shower bath curtains, comforters and quilts, pillows, blankets, mattress protectors, table linen, and slip covers, nsk	N	X	X	34 513	N	X	X	N
314129W	Household furnishings, nsk, total	N	X	X	230 603	N	X	X	N
314129WY	Household furnishings, nsk, total	N	X	X	230 603	N	X	X	N
314129WYWW	Household furnishings, nsk, for nonadministrative-record establishments	N	X	X	107 253	N	X	X	N
314129WYWY	Household furnishings, nsk, for administrative-record establishments	N	X	X	123 350	N	X	X	N

Additional information is available for this item: see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3141291	BEDSPREADS AND BEDSETS		
	United States	272 017	443 678
	California	78 098	61 723
	Connecticut	4 347	N
	Florida	20 860	17 888
	Georgia	11 399	31 451
	New Jersey	8 012	9 510
	New York	14 108	16 045
	North Carolina	59 857	71 362
	South Carolina	29 575	98 569
	Texas	17 584	N
3141293	SHEETS AND PILLOWCASES @		
	United States	1 448 312	1 001 944
	California	57 063	N
	Georgia	110 264	N
	New Jersey	13 274	N
	New York	53 367	20 483
	North Carolina	27 963	16 598
3141295	TOWELS AND WASHCLOTHS @		
	United States	849 293	611 425
	Ohio	13 623	N
	South Carolina	19 005	21 830

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3141297	SHOWER BATH CURTAINS, COMFORTERS AND QUILTS, PILLOWS, BLANKETS, MATTRESS PROTECTORS, TABLE LINEN, AND SLIP COVERS		
	United States	3 772 582	N
	Alabama	131 199	N
	California	305 901	N
	Connecticut	10 472	N
	Florida	71 361	N
	Georgia	381 820	N
	Illinois	147 924	N
	Indiana	73 745	N
	Kentucky	147 888	N
	Massachusetts	33 714	N
	Minnesota	24 759	N
	Mississippi	331 971	N
	Nebraska	16 821	N
	New Jersey	113 645	N
	New York	158 314	N
	North Carolina	688 178	N
	Ohio	71 985	N
	Pennsylvania	261 021	N
	South Carolina	311 611	N
	Tennessee	41 100	N
	Texas	144 513	N
	Virginia	20 381	N
	Wisconsin	40 210	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314129	OTHER HOUSEHOLD TEXTILE PRODUCT MILLS				
31321003	Cotton broadwoven fabrics (piece goods)	X	543 850	X	N
31321009	Rayon and acetate broadwoven fabrics (piece goods)	X	14 909	X	N
31321013	Polyester broadwoven fabrics (piece goods)	X	265 363	X	N
31321015	Nylon broadwoven fabrics (piece goods)	X	20 141	X	N
31321021	Other broadwoven fabrics (piece goods)	X	815 785	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	29 989	X	N
31311003	Yarn, all fibers	X	195 176	X	N
31332001	Plastics coated, impregnated, or laminated fabrics	X	23 140	X	N
32520003	Manmade fibers, staple, and tow	X	169 194	X	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	32 987	X	N
00970099	All other materials and components, parts, containers, and supplies	X	1 244 719	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	320 490	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314129 OTHER HOUSEHOLD TEXTILE PRODUCT MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing household textile products (except window curtains and draperies), such as bedspreads, sheets, tablecloths, towels, and shower curtains, from purchased materials.

The data published with NAICS code 314129 include the following SIC industry:

2392 Housefurnishings, n.e.c. (pt)

This definition comes from the 1997 NAICS manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 314129 do not include establishments primarily engaged in the making of custom slip covers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
\$ 3141291010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291030	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291040	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291050	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291060	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141291070	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3141293	For additional detail, see Current Industrial Report MQ314X, Bed and Bath Furnishings.
\$ 3141293000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3141295	For additional detail, see Current Industrial Report MQ314X, Bed and Bath Furnishings.
\$ 3141295010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141295020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141297210	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141297220	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141297230	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3141297440	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101	22731	22731	31412974B1 pt	2392442 pt	2392443	3149915	22983	22983
3141101000	2273100	2273100	31412974C1 pt	2392444 pt	2392446	3149915111	2298311	2298311
3141103	22732	22732	31412974D1 pt	2392449 pt	2392450	3149915121	2298325	2298325
3141103110	2273220	2273220	31412974E1	2392454	2392454	3149915131	2298398	2298398
3141103220	2273240	2273240	31412974F1	2392463	2392463	3149915YVW	2298300	2298300
3141103YVW	2273200	2273200	31412974H1	2392465	2392465	314991W	22980	22980
3141105	22733	22733	31412974J1	2392469	2392469	314991WYVW	2298000	2298000
3141105000	2273300	2273300	31412974K1	2392499	2392499	314991WYVY	2298002	2298002
314110W	22730	22730	3141297YVW	2392400 pt	2392400 pt	3149920	22960	22960
314110WYVW	2273000	2273000	314129W	23920 pt	23920 pt	3149920100	2296000 pt	2296000 pt
314110WYVY	2273002	2273002	314129WYVW	2392000 pt	2392000 pt	3149920YVW	2296000 pt	2296000 pt
3141210 pt	23910	23910	314129WYVY	2392002 pt	2392002 pt	3149920YVY	2296002	2296002
3141210 pt	57140	57140	314129WYVY	2392002 pt	2392002 pt	3149991	22994	22994
3141210111	2391010	2391010	3149110 pt	23920 pt	23920 pt	3149991111	2299411	2299411
3141210221	2391012	2391012	3149110 pt	23924 pt	23924 pt	3149991121	2299413	2299413
3141210231	2391019	2391019	3149110 pt	23924 pt	23924 pt	3149991131	2299441	2299441
3141210241	2391023	2391023	3149110 pt	23930	23930	3149991YVW	2299400	2299400
3141210251	2391025	2391025	3149110111	2393012	2393012	3149993	22995	22995
3141210361	2391052	2391052	3149110151	2393091	2393091	3149993111	2299517	2299517
3141210371	2391059	2391059	3149110221	2393013	2393013	3149993121	2299519	2299519
3141210381	2391063	2391063	3149110231	2392481	2392481	3149993131 pt	2299532 pt	2299532
3141210391	2391062	2391062	3149110241	2393031	2393031	3149993141	2299532 pt	2299533
31412104A1	5714000 pt	5714000 pt	3149110261	2393092	2393095 pt	3149993151	2299557	2299557
3141210YVW pt	2391000	2391000	3149110271	2393099	2393095 pt	3149993YVW	2299500	2299500
3141210YVW pt	5714000 pt	5714000 pt	3149110281	2393094	2393095 pt	3149995	23952	23952
3141210YVY pt	2391002	2391002	3149110291	2393096	2393096	3149995100	2395200	2395200
3141210YVY pt	5714002	5714002	31491102A1 pt	2393098 pt	2393018	3149997	23963 pt	23963 pt
3141291	23921	23921	31491102A1 pt	2393098 pt	2393097	3149997111	2396314	2396312
3141291010	2392111	2392111	3149110YVW pt	2392000 pt	2392000 pt	3149997121	2396333	2396333
3141291020	2392114	2392114	3149110YVW pt	2392400 pt	2392400 pt	3149997131	2396345	2396345
3141291030	2392116	2392116	3149110YVW pt	2393000	2393000	3149997YVW	2396300	2396300
3141291040	2392120	2392120	3149110YVY pt	2392002 pt	2392002 pt	3149999 pt	23990 pt	23990 pt
3141291050	2392121	2392121	3149110YVY pt	2393002	2393002	3149999 pt	39999 pt	39999 pt
3141291060	2392113	2392113	31491120	23940	23940	3149999111	2399015	2399015
3141291070	2392115	2392115	3149120111	2394021	2394021	3149999231	2399041	2399041
3141291YVW	2392100	2392100	3149120221	2394034	2394034	3149999371	2399097	2399097
3141293	23922	23922	3149120331	2394036	2394036	3149999421	2399031	2399031
3141293000	2392200	2392200	3149120441	2394053	2394053	3149999441	2399085	2399085
3141295	23923	23923	3149120551	2394055	2394055	3149999451	2399093	2399093
3141295010	2392310	2392310	3149120661	2394061	2394061	3149999461	2399095	2399095
3141295020	2392313	2392313	3149120671	2394064	2394064	3149999481 pt	2399099	2399098 pt
3141295YVW	2392300	2392300	3149120YVW	2394000	2394000	3149999481 pt	3999995 pt	3999913 pt
3141297	23924 pt	23924 pt	3149120YVY	2394002	2394002	3149999YVW pt	3999995 pt	3999999 pt
3141297101	2392409	2392409	3149911	22981	22981	3149999YVW pt	2399000 pt	2399000 pt
3141297210	2392412	2392412	3149911111	2298111	2298111	3149999YVW pt	2399002 pt	2399002 pt
3141297220	2392414	2392414	3149911121	2298135	2298135	3149999YVW pt	3999900 pt	3999900 pt
3141297230	2392416	2392416	3149911YVW	2298100	2298100	314999W pt	22990 pt	22990 pt
31412973J1	2392455	2392455	3149913	22982	22982	314999W pt	23950 pt	23950 pt
31412973K1	2392456	2392456	3149913111	2298201	2298201	314999W pt	23960 pt	23960 pt
31412973L1	2392457	2392457	3149913121	2298202	2298202	314999W pt	39990 pt	39990 pt
31412973M1	2392459	2392459	3149913131	2298203	2298203	314999WYVW pt	2299000 pt	2299000 pt
3141297440	2392494	2392494	3149913141	2298205	2298205	314999WYVW pt	2395000 pt	2395000 pt
3141297451	2392433	2392433	3149913251	2298208	2298208	314999WYVW pt	2396000 pt	2396000 pt
3141297461	2392435	2392435	3149913361	2298214	2298214	314999WYVY pt	3999000 pt	3999000 pt
3141297471	2392436	2392436	3149913471	2298219	2298219	314999WYVY pt	2299002 pt	2299002 pt
3141297481	2392437	2392437	3149913581	2298228	2298228	314999WYVY pt	2395002 pt	2395002 pt
31412974A1 pt	2392439 pt	2392438	3149913YVW	2298200	2298200	314999WYVY pt	2396002 pt	2396002 pt
31412974A1 pt	2392439 pt	2392440				314999WYVY pt	3999002 pt	3999002 pt
31412974B1 pt	2392442 pt	2392441						

Textile Bag Mills

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1997 Economic Census

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314911	Textile bag mills	420	432	13 584	245 869	11 422	21 023	156 115	469 755	475 181	947 333	21 484
239220	Housefurnishings, n.e.c. (pt) ...	N	42	415	7 235	324	509	4 057	12 834	17 214	32 394	429
239300	Textile bags	N	390	13 169	238 634	11 098	20 514	152 058	456 921	457 967	914 939	21 055

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314911, TEXTILE BAG MILLS												
United States	1	432	154	13 584	245 869	11 422	21 023	156 115	469 755	475 181	947 333	21 484
California	2	64	20	2 131	34 158	1 819	2 918	17 771	53 928	62 310	115 087	1 505
Colorado	2	12	4	289	5 358	226	464	3 427	12 453	10 618	22 127	533
Florida	-	16	6	646	9 221	584	1 056	6 706	20 594	15 814	36 266	1 000
Georgia	1	17	9	1 256	24 727	1 076	2 322	18 250	23 677	47 841	72 135	1 295
Idaho	2	6	3	136	2 014	103	172	1 214	3 491	3 176	6 730	88
Illinois	-	14	5	538	12 476	447	843	7 186	22 392	30 068	52 567	459
Louisiana	-	13	8	658	11 009	568	970	6 816	19 760	26 445	46 909	897
Michigan	1	5	3	135	2 693	116	210	1 690	4 907	5 644	10 601	188
Missouri	-	11	5	623	12 840	558	1 313	10 403	48 807	41 298	87 820	2 629
Montana	1	7	1	151	2 725	127	243	1 864	3 724	1 734	4 941	113
Nebraska	1	3	1	102	1 590	80	110	930	2 743	2 492	5 129	54
New Hampshire	6	5	2	116	2 503	61	145	1 230	5 672	4 863	10 434	230
New Jersey	-	8	4	388	7 808	321	580	4 652	17 881	20 292	37 455	511
New York	1	36	9	662	12 863	535	962	7 293	24 834	20 289	45 404	2 143
North Carolina	1	16	6	544	11 538	463	898	7 967	22 341	26 386	49 514	231
Ohio	-	10	4	221	6 488	177	364	3 034	14 148	15 764	30 373	286
Oregon	5	7	2	197	2 733	168	239	1 681	3 424	7 521	11 617	279
Pennsylvania	-	12	4	339	7 057	272	458	3 839	12 972	8 721	22 496	245
Tennessee	-	13	8	633	10 007	516	904	6 211	20 777	16 118	36 396	672
Texas	2	23	9	666	10 554	517	832	5 936	17 306	19 470	38 654	1 296
Utah	-	12	4	245	3 985	194	368	2 346	6 939	4 593	11 510	236
Virginia	-	4	3	130	2 590	104	198	1 646	3 643	2 069	5 903	129
Washington	-	22	8	572	9 359	498	872	6 834	23 376	19 623	43 593	426

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314911, TEXTILE BAG MILLS		314911, TEXTILE BAG MILLS—Con.	
Companies ¹ number..	420	Value added \$1,000..	469 755
All establishments number..	432	Total inventories, beginning of year \$1,000..	131 080
Establishments with 1 to 19 employees number..	278	Finished goods inventories, beginning of year \$1,000..	42 759
Establishments with 20 to 99 employees number..	125	Work-in-process inventories, beginning of year \$1,000..	16 446
Establishments with 100 employees or more number..	29	Materials and supplies inventories, beginning of year \$1,000..	71 875
All employees number..	13 584	Total inventories, end of year \$1,000..	126 181
Total compensation ² \$1,000..	291 957	Finished goods inventories, end of year \$1,000..	41 568
Annual payroll \$1,000..	245 869	Work-in-process inventories, end of year \$1,000..	15 240
Total fringe benefits \$1,000..	46 088	Materials and supplies inventories, end of year \$1,000..	69 373
Production workers, average for year number..	11 422	Gross book value of total assets at beginning of year \$1,000..	156 430
Production workers on March 15 number..	11 407	Total capital expenditures (new and used) \$1,000..	21 484
Production workers on May 15 number..	11 590	Capital expenditures for buildings and other structures (new and used) \$1,000..	3 388
Production workers on August 15 number..	11 567	Capital expenditures for machinery and equipment (new and used) \$1,000..	18 096
Production workers on November 15 number..	11 124	Total retirements ² \$1,000..	5 824
Production-worker hours 1,000..	21 023	Gross book value of total assets at end of year \$1,000..	172 090
Production-worker wages \$1,000..	156 115	Total depreciation during year ² \$1,000..	11 991
Total cost of materials \$1,000..	475 181	Total rental payments ² \$1,000..	13 889
Cost of materials, parts, containers, etc., consumed \$1,000..	415 506	Buildings and other structures rental payments ² \$1,000..	8 129
Cost of resales \$1,000..	36 597	Machinery and equipment rental payments ² \$1,000..	5 760
Cost of fuels \$1,000..	1 724	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	1 214
Cost of purchased electricity \$1,000..	6 044	Response coverage ratio ⁴ percent..	72
Cost of contract work \$1,000..	15 310	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	3 928
Quantity of electricity purchased for heat and power 1,000 kWh..	92 878	Response coverage ratio ⁴ percent..	72
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Cost of purchased communications services ³ \$1,000..	1 540
Total value of shipments \$1,000..	947 333	Response coverage ratio ⁴ percent..	72
Primary products value of shipments \$1,000..	825 829	Cost of purchased legal services ³ \$1,000..	905
Secondary products value of shipments \$1,000..	71 998	Response coverage ratio ⁴ percent..	72
Total miscellaneous receipts \$1,000..	49 506	Cost of purchased accounting and bookkeeping services ³ \$1,000..	659
Value of resales \$1,000..	37 391	Response coverage ratio ⁴ percent..	72
Contract receipts \$1,000..	11 800	Cost of purchased advertising services ³ \$1,000..	2 976
Other miscellaneous receipts \$1,000..	315	Response coverage ratio ⁴ percent..	72
Primary products specialization ratio percent..	91	Cost of purchased software and other data processing services ³ \$1,000..	380
Value of primary products shipments made in all industries \$1,000..	900 551	Response coverage ratio ⁴ percent..	72
Value of primary products shipments made in this industry \$1,000..	825 829	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	249
Value of primary products shipments made in other industries \$1,000..	74 722	Response coverage ratio ⁴ percent..	72
Coverage ratio percent..	91		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314911, TEXTILE BAG MILLS												
All establishments	1	432	154	13 584	245 869	11 422	21 023	156 115	469 755	475 181	947 333	21 484
Establishments with 1 to 4 employees	8	150	—	298	4 021	262	417	2 312	7 228	8 607	16 703	303
Establishments with 5 to 9 employees	6	61	—	391	6 614	312	510	3 750	11 393	17 120	29 961	535
Establishments with 10 to 19 employees	5	67	—	899	13 369	704	1 020	7 591	23 984	26 344	52 098	1 044
Establishments with 20 to 49 employees	2	74	74	2 252	39 779	1 886	3 330	24 543	67 967	71 531	141 979	2 532
Establishments with 50 to 99 employees	1	51	51	3 668	67 520	2 936	5 452	41 100	132 528	139 074	272 907	4 621
Establishments with 100 to 249 employees	—	22	22	2 987	56 830	2 538	4 662	36 907	98 402	104 291	203 679	6 047
Establishments with 250 to 499 employees	—	6	6	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	192	—	981	12 811	820	1 181	7 616	21 675	29 053	54 399	1 064

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314911	Textile bag mills	432	13 584	245 869	11 422	21 023	156 115	469 755	475 181	947 333	21 484

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314911	Textile bags	N	X	X	900 551	N	X	X	N
3149110	Textile bags	N	X	X	900 551	N	X	X	N
31491101	Duffie bags and knapsacks, all materials (including cotton canvas and open-mesh cotton)	N	X	X	153 843	N	X	X	N
3149110111	Duffie bags and knapsacks, wholly or chiefly cotton (including cotton canvas and open-mesh cotton)	35	X	X	37 618	21	X	N	29 803
3149110151	Duffie bags and knapsacks, wholly or chiefly manmade fiber fabrics	37	X	X	116 225	30	X	N	79 916
31491102	All other textile bags	N	X	X	604 938	N	X	X	N
3149110221	Other bags, wholly or chiefly cotton (including cotton canvas and open-mesh cotton)	67	X	X	97 821	71	X	N	171 857
3149110231	Laundry, wardrobe, and shoe bags (including storage bags of textiles with or without external supporting frames)	15	X	X	20 125	25	X	X	41 759
3149110241	Textile bags, burlap	14	X	X	42 658	20	X	N	67 800
3149110261	Textile bags of split polyethylene or polypropylene strip (except duffie), standard	9	X	X	32 946	N	X	X	N
3149110271	Textile bags of split polyethylene or polypropylene strip (except duffie), bulk	16	X	X	109 060	N	X	X	N
3149110281	Textile bags of split polyethylene or polypropylene strip (except duffie), mesh	8	X	X	27 345	N	X	X	N
3149110291	Textile bags of other manmade fiber fabrics (except duffie)	60	X	X	137 481	42	X	N	74 506
31491102A1	Textile bags, other fabrics, including spun paper	24	X	X	137 502	N	X	X	N
3149110Y	Textile bags, nsk	N	X	X	141 770	N	X	X	N
3149110YWW	Textile bags, nsk, for nonadministrative-record establishments	N	X	X	86 110	N	X	X	N
3149110YWY	Textile bags, nsk, for administrative-record establishments	N	X	X	55 660	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314911	TEXTILE BAG MILLS				
31321003	Cotton broadwoven fabrics (piece goods)	X	40 843	N	N
31321009	Rayon and acetate broadwoven fabrics (piece goods)	X	3 608	N	N
31321013	Polyester broadwoven fabrics (piece goods)	X	23 118	N	N
31321015	Nylon broadwoven fabrics (piece goods)	X	25 125	N	N
31321021	Other broadwoven fabrics (piece goods)	X	47 468	N	N
31322103	Narrow fabrics (12 inches or less in width)	X	7 676	N	N
31311003	Yarn, all fibers	X	19 812	N	N
31332001	Plastics coated, impregnated, or laminated fabrics	X	63 687	N	N
32520003	Manmade fibers, staple, and tow	X	13 874	N	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	14 338	N	N
00970099	All other materials and components, parts, containers, and supplies	X	94 466	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	61 491	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314911 TEXTILE BAG MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing bags from purchased textile fabrics or yarns.

The data published with NAICS code 314911 include the following SIC industries:

2392 Housefurnishings, n.e.c. (pt)

2393 Textile bags

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101	22731	22731	31412974B1 pt	2392442 pt	2392443	3149915	22983	22983
3141101000	2273100	2273100	31412974C1 pt	2392444 pt	2392446	3149915111	2298311	2298311
3141103	22732	22732	31412974D1 pt	2392449 pt	2392450	3149915121	2298325	2298325
3141103110	2273220	2273220	31412974E1	2392454	2392454	3149915131	2298398	2298398
3141103220	2273240	2273240	31412974F1	2392463	2392463	3149915YVW	2298300	2298300
3141103YVW	2273200	2273200	31412974H1	2392465	2392465	314991W	22980	22980
3141105	22733	22733	31412974J1	2392469	2392469	314991WYVW	2298000	2298000
3141105000	2273300	2273300	31412974K1	2392499	2392499	314991WYVY	2298002	2298002
314110W	22730	22730	3141297YVW	2392400 pt	2392400 pt	3149920	22960	22960
314110WYVW	2273000	2273000	314129W	23920 pt	23920 pt	3149920100	2296000 pt	2296000 pt
314110WYVY	2273002	2273002	314129WYVW	2392000 pt	2392000 pt	3149920YVW	2296000 pt	2296000 pt
3141210 pt	23910	23910	314129WYVY	2392002 pt	2392002 pt	3149920YVY	2296002	2296002
3141210 pt	57140	57140	314129WYVY	2392002 pt	2392002 pt	3149991	22994	22994
3141210111	2391010	2391010	314129WYVY	2392002 pt	2392002 pt	3149991111	2299411	2299411
3141210221	2391012	2391012	314129WYVY	2392002 pt	2392002 pt	3149991121	2299413	2299413
3141210231	2391019	2391019	314129WYVY	2392002 pt	2392002 pt	3149991131	2299441	2299441
3141210241	2391023	2391023	314129WYVY	2392002 pt	2392002 pt	3149991YVW	2299400	2299400
3141210251	2391025	2391025	314129WYVY	2392002 pt	2392002 pt	3149993	22995	22995
3141210361	2391052	2391052	314129WYVY	2392002 pt	2392002 pt	3149993111	2299517	2299517
3141210371	2391059	2391059	314129WYVY	2392002 pt	2392002 pt	3149993121	2299519	2299519
3141210381	2391063	2391063	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299532
3141210391	2391062	2391062	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299533
31412104A1	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993141	2299533	2299533
3141210YVW pt	2391000	2391000	314129WYVY	2392002 pt	2392002 pt	3149993151	2299557	2299557
3141210YVW pt	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993YVW	2299500	2299500
3141210YVY pt	2391002	2391002	314129WYVY	2392002 pt	2392002 pt	3149995	23952	23952
3141210YVY pt	5714002	5714002	314129WYVY	2392002 pt	2392002 pt	3149995100	2395200	2395200
3141291	23921	23921	314129WYVY	2392002 pt	2392002 pt	3149997	23963 pt	23963 pt
3141291010	2392111	2392111	314129WYVY	2392002 pt	2392002 pt	3149997111	2396314	2396312
3141291020	2392114	2392114	314129WYVY	2392002 pt	2392002 pt	3149997121	2396333	2396333
3141291030	2392116	2392116	314129WYVY	2392002 pt	2392002 pt	3149997131	2396345	2396345
3141291040	2392120	2392120	314129WYVY	2392002 pt	2392002 pt	3149997YVW	2396300	2396300
3141291050	2392121	2392121	314129WYVY	2392002 pt	2392002 pt	3149999 pt	23990 pt	23990 pt
3141291060	2392113	2392113	314129WYVY	2392002 pt	2392002 pt	3149999 pt	39999 pt	39999 pt
3141291070	2392115	2392115	314129WYVY	2392002 pt	2392002 pt	3149999111	2399015	2399015
3141291YVW	2392100	2392100	314129WYVY	2392002 pt	2392002 pt	3149999231	2399041	2399041
3141293	23922	23922	314129WYVY	2392002 pt	2392002 pt	3149999371	2399097	2399097
3141293000	2392200	2392200	314129WYVY	2392002 pt	2392002 pt	3149999421	2399031	2399031
3141295	23923	23923	314129WYVY	2392002 pt	2392002 pt	3149999441	2399085	2399085
3141295010	2392310	2392310	314129WYVY	2392002 pt	2392002 pt	3149999451	2399093	2399093
3141295020	2392313	2392313	314129WYVY	2392002 pt	2392002 pt	3149999461	2399095	2399095
3141295YVW	2392300	2392300	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399099	2399098 pt
3141297	23924 pt	23924 pt	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399095 pt
3141297101	2392409	2392409	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399099 pt
3141297210	2392412	2392412	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399000 pt	2399000 pt
3141297220	2392414	2392414	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399002 pt	2399002 pt
3141297230	2392416	2392416	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973J1	2392455	2392455	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973K1	2392456	2392456	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973L1	2392457	2392457	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973M1	2392459	2392459	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297440	2392494	2392494	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297451	2392433	2392433	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297461	2392435	2392435	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297471	2392436	2392436	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297481	2392437	2392437	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392438	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392440	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974B1 pt	2392442 pt	2392441	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt

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1997

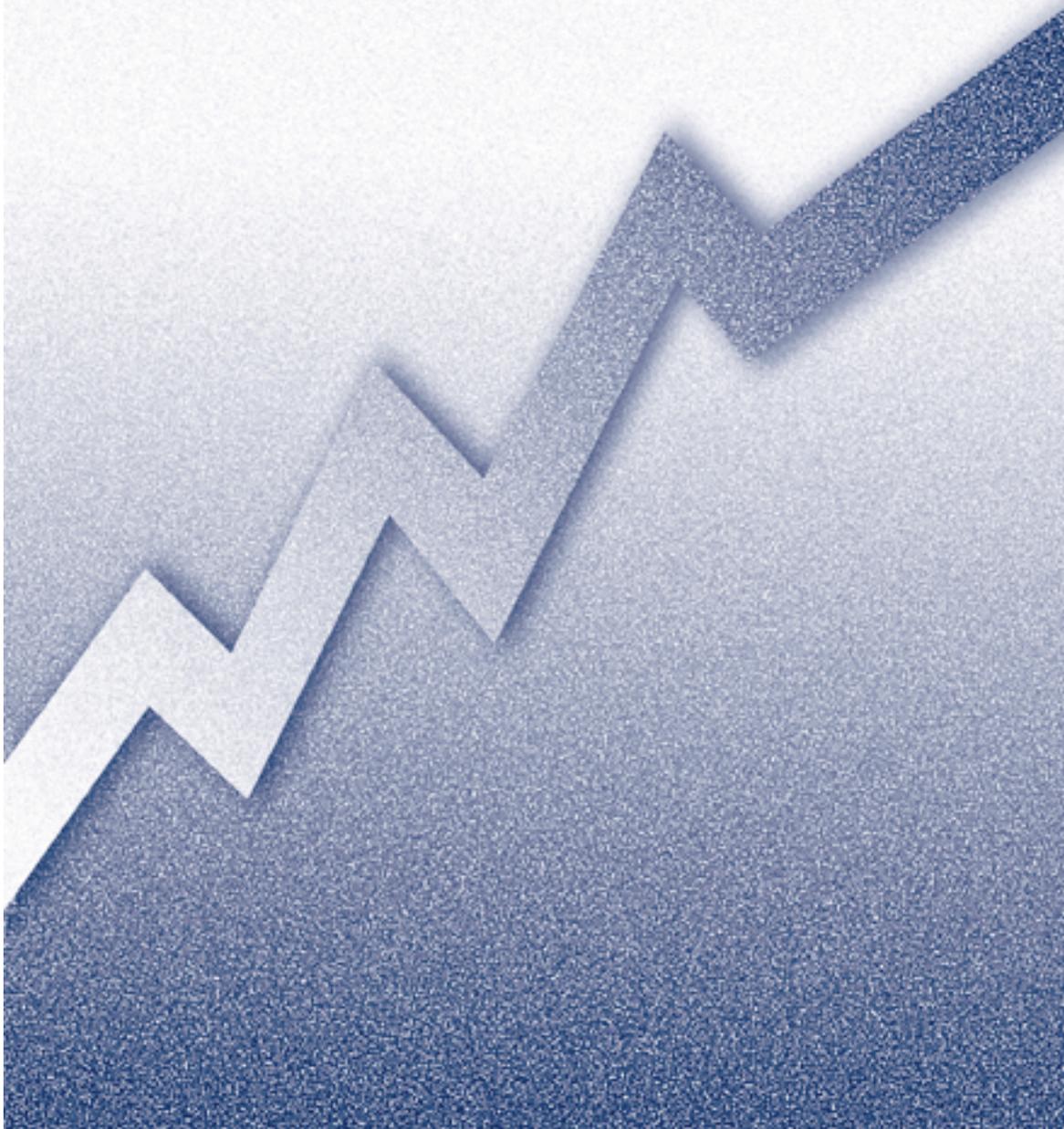
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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314912	Canvas & related product mills	1 665	1 680	18 660	412 861	14 024	24 229	238 977	783 053	723 454	1 525 560	44 517
239400	Canvas & related products	N	1 680	18 660	412 861	14 024	24 229	238 977	783 053	723 454	1 525 560	44 517

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314912, CANVAS & RELATED PRODUCT MILLS												
United States	3	1 680	225	18 660	412 861	14 024	24 229	238 977	783 053	723 454	1 525 560	44 517
Alabama	1	20	3	327	6 493	272	440	4 176	10 176	8 792	20 134	1 143
Arizona	6	18	4	338	9 534	273	517	5 581	11 683	11 099	22 907	1 311
California	5	208	22	2 088	46 552	1 537	2 691	26 180	90 872	75 144	166 415	5 293
Colorado	4	28	4	592	13 745	443	821	6 831	28 749	38 264	67 190	1 351
Florida	4	178	17	1 299	24 843	993	1 530	14 960	41 623	37 408	80 932	2 837
Georgia	5	34	7	487	11 882	343	672	6 417	17 768	17 240	37 011	910
Illinois	6	59	13	998	24 686	739	1 321	14 886	51 509	46 878	99 212	2 663
Indiana	1	42	8	971	22 864	775	1 362	14 375	44 043	35 580	79 518	3 822
Iowa	4	15	2	132	2 714	107	212	1 841	4 651	3 671	8 197	457
Massachusetts	1	44	6	426	10 741	322	598	6 610	18 898	23 524	43 801	1 243
Michigan	1	63	7	537	12 028	439	758	7 021	23 973	24 569	49 467	763
Minnesota	2	23	2	196	4 116	137	221	2 145	10 798	8 430	19 046	351
Missouri	-	29	8	576	11 084	487	775	7 395	25 080	22 195	47 638	443
New Jersey	4	57	2	278	5 760	221	338	3 568	9 996	8 074	18 384	656
New York	2	118	15	1 094	26 526	831	1 382	15 280	53 127	59 227	114 287	2 538
North Carolina	-	33	5	420	8 480	311	544	5 264	12 939	14 283	27 790	572
Ohio	3	72	13	825	17 066	599	960	9 610	29 762	29 667	60 551	1 328
Oregon	2	31	4	251	5 313	182	328	3 343	7 610	6 730	14 796	470
Pennsylvania	3	62	8	587	14 679	445	792	8 605	26 332	26 302	52 686	1 682
South Dakota	-	8	1	189	3 927	124	247	2 206	12 766	9 585	21 590	684
Tennessee	-	27	10	535	12 473	399	708	6 036	29 006	21 609	51 058	1 123
Texas	2	76	7	949	16 483	697	1 213	9 274	30 501	32 510	66 484	1 672
Utah	1	10	5	191	4 875	136	207	2 592	11 864	8 240	20 162	383
Washington	3	55	5	433	11 392	333	591	6 852	18 048	15 389	34 038	1 358
Wisconsin	1	41	5	425	9 761	331	589	5 023	16 633	17 944	34 479	1 288

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314912, CANVAS & RELATED PRODUCT MILLS		314912, CANVAS & RELATED PRODUCT MILLS— Con.	
Companies ¹	number.. 1 665	Value added	\$1,000.. 783 053
All establishments	number.. 1 680	Total inventories, beginning of year	\$1,000.. 189 448
Establishments with 1 to 19 employees	number.. 1 455	Finished goods inventories, beginning of year	\$1,000.. 75 262
Establishments with 20 to 99 employees	number.. 199	Work-in-process inventories, beginning of year	\$1,000.. 30 494
Establishments with 100 employees or more	number.. 26	Materials and supplies inventories, beginning of year	\$1,000.. 83 692
All employees	number.. 18 660	Total inventories, end of year	\$1,000.. 154 849
Total compensation ²	\$1,000.. 490 493	Finished goods inventories, end of year	\$1,000.. 63 705
Annual payroll	\$1,000.. 412 861	Work-in-process inventories, end of year	\$1,000.. 22 963
Total fringe benefits	\$1,000.. 77 632	Materials and supplies inventories, end of year	\$1,000.. 68 181
Production workers, average for year	number.. 14 024	Gross book value of total assets at beginning of year	\$1,000.. 263 191
Production workers on March 12	number.. 13 998	Total capital expenditures (new and used)	\$1,000.. 44 517
Production workers on May 12	number.. 14 198	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 3 217
Production workers on August 12	number.. 14 070	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 41 300
Production workers on November 12	number.. 13 830	Total retirements ²	\$1,000.. 16 921
Production-worker hours	\$1,000.. 24 229	Gross book value of total assets at end of year	\$1,000.. 290 787
Production-worker wages	\$1,000.. 238 977	Total depreciation during year ²	\$1,000.. 25 051
Total cost of materials	\$1,000.. 723 454	Total rental payments ²	\$1,000.. 80 060
Cost of materials, parts, containers, etc., consumed	\$1,000.. 656 392	Buildings and other structures rental payments ²	\$1,000.. 33 493
Cost of resales	\$1,000.. 35 402	Machinery and equipment rental payments ²	\$1,000.. 46 567
Cost of fuels	\$1,000.. 4 993	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 548
Cost of purchased electricity	\$1,000.. 7 128	Response coverage ratio ⁴	percent.. 51
Cost of contract work	\$1,000.. 19 539	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 1 972
Quantity of electricity purchased for heat and power	1,000 kWh.. 111 555	Response coverage ratio ⁴	percent.. 51
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 2 777
Total value of shipments	\$1,000.. 1 525 560	Response coverage ratio ⁴	percent.. 51
Primary products value of shipments	\$1,000.. 1 386 128	Cost of purchased legal services ³	\$1,000.. 988
Secondary products value of shipments	\$1,000.. 66 613	Response coverage ratio ⁴	percent.. 51
Total miscellaneous receipts	\$1,000.. 72 819	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 575
Value of resales	\$1,000.. 40 429	Response coverage ratio ⁴	percent.. 51
Contract receipts	\$1,000.. 16 273	Cost of purchased advertising services ³	\$1,000.. 11 168
Other miscellaneous receipts	\$1,000.. 16 117	Response coverage ratio ⁴	percent.. 51
Primary products specialization ratio	percent.. 95	Cost of purchased software and other data processing services ³	\$1,000.. 549
Value of primary products shipments made in all industries	\$1,000.. 1 470 609	Response coverage ratio ⁴	percent.. 51
Value of primary products shipments made in this industry	\$1,000.. 1 386 128	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 414
Value of primary products shipments made in other industries	\$1,000.. 84 481	Response coverage ratio ⁴	percent.. 51
Coverage ratio	percent.. 94		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314912, CANVAS & RELATED PRODUCT MILLS												
All establishments	3	1 680	225	18 660	412 861	14 024	24 229	238 977	783 053	723 454	1 525 560	44 517
Establishments with 1 to 4 employees	8	850	—	1 688	29 520	1 439	1 986	18 281	49 711	49 829	104 057	4 527
Establishments with 5 to 9 employees	4	349	—	2 307	46 956	1 756	2 726	28 806	76 709	70 608	151 299	4 883
Establishments with 10 to 19 employees	2	256	—	3 464	76 084	2 553	4 334	44 859	143 433	122 436	270 513	5 989
Establishments with 20 to 49 employees	1	166	166	4 830	111 330	3 569	6 174	62 232	203 701	176 929	384 404	9 287
Establishments with 50 to 99 employees	1	33	33	2 344	57 178	1 761	3 357	33 060	89 452	85 325	178 410	9 343
Establishments with 100 to 249 employees	3	25	25	D	D	D	D	D	D	D	D	D
Establishments with 250 to 499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	834	—	2 434	38 657	2 026	2 670	24 032	63 712	66 470	136 592	5 756

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314912	Canvas & related product mills	1 680	18 660	412 861	14 024	24 229	238 977	783 053	723 454	1 525 560	44 517

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314912	Canvas and related products	N	X	X	1 470 609	N	X	X	1 051 025
3149120	Canvas and related products made from cotton, nylon, polyester, and other industrial fabrics	N	X	X	1 470 609	N	X	X	1 051 025
31491201	Canvas and related products made from cotton, nylon, polyester, and other industrial fabrics, awnings	N	X	X	275 607	N	X	X	N
3149120111	Canvas and related products made from cotton, nylon, polyester, and other industrial fabrics, awnings	285	X	X	275 607	249	X	X	207 086
31491202	Camping tents made from cotton, nylon, polyester, and other industrial fabrics	N	X	X	29 124	N	X	X	N
3149120221	Camping tents made from cotton, nylon, polyester, and other industrial fabrics	23	X	X	29 124	25	X	X	69 185
31491203	Other tents, including air supported structures and tension structures, made from cotton, nylon, polyester, and other industrial fabrics	N	X	X	133 087	N	X	X	N
3149120331	Other tents, including air supported structures and tension structures, made from cotton, nylon, polyester, and other industrial fabrics	59	X	X	133 087	47	X	X	82 628
31491204	Tarpaulins and other covers, flat, made from cotton, nylon, polyester, and other industrial fabrics	N	X	X	131 620	N	X	X	N
3149120441	Tarpaulins and other covers, flat, made from cotton, nylon, polyester, and other industrial fabrics	120	X	X	131 620	98	X	X	132 106
31491205	Tarpaulins and other covers, fitted, made from cotton, nylon, polyester, and other industrial fabrics	N	X	X	186 132	N	X	X	N
3149120551	Tarpaulins and other covers, fitted, made from cotton, nylon, polyester, and other industrial fabrics	125	X	X	186 132	84	X	X	121 229
31491206	All other canvas products, including canvas sails, except bags	N	X	X	278 438	N	X	X	N
3149120661	Canvas sails, made from cotton, nylon, polyester, and other industrial fabrics	40	X	X	53 083	41	X	X	46 362
3149120671	All other canvas products, except bags, made from cotton, nylon, polyester, and other industrial fabrics	170	X	X	225 355	123	X	X	164 176
3149120Y	Canvas and related products, nsk	N	X	X	436 601	N	X	X	N
3149120YWW	Canvas and related products, nsk, for nonadministrative-record establishments	N	X	X	302 621	N	X	X	157 593
3149120YWY	Canvas and related products, nsk, for administrative-record establishments	N	X	X	133 980	N	X	X	70 660

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314912	CANVAS & RELATED PRODUCT MILLS				
31321003	Cotton broadwoven fabrics (piece goods)	X	29 679	N	27 220
31321009	Rayon and acetate broadwoven fabrics (piece goods)	X	4 035	N	1 139
31321013	Polyester broadwoven fabrics (piece goods)	X	28 720	N	17 335
31321015	Nylon broadwoven fabrics (piece goods)	X	35 598	N	24 284
31321021	Other broadwoven fabrics (piece goods)	X	22 185	N	20 132
31322103	Narrow fabrics (12 inches or less in width)	X	7 858	N	5 833
31311003	Yarn, all fibers	X	7 403	N	1 045
31332001	Plastics coated, impregnated, or laminated fabrics	X	83 553	N	54 294
32520003	Manmade fibers, staple, and tow	X	8 919	N	1 121
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	10 154	X	2 975
00970099	All other materials and components, parts, containers, and supplies	X	188 034	X	104 732
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	230 254	X	192 628

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314912 CANVAS AND RELATED PRODUCT MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing canvas and canvas-like products, such as awnings, sails, tarpaulins, and tents, from purchased fabrics.

The data published with NAICS code 314912 include the following SIC industry:

2394 Canvas and related products

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101.....	22731.....	22731.....	31412974B1 pt.....	2392442 pt.....	2392443.....	3149915.....	22983.....	22983.....
3141101000.....	2273100.....	2273100.....	31412974C1 pt.....	2392444 pt.....	2392446.....	3149915111.....	2298311.....	2298311.....
3141103.....	22732.....	22732.....	31412974D1 pt.....	2392449 pt.....	2392450.....	3149915121.....	2298325.....	2298325.....
3141103110.....	2273220.....	2273220.....	31412974E1.....	2392454.....	2392454.....	3149915131.....	2298398.....	2298398.....
3141103220.....	2273240.....	2273240.....	31412974F1.....	2392463.....	2392463.....	3149915YVW.....	2298300.....	2298300.....
3141103YVW.....	2273200.....	2273200.....	31412974H1.....	2392465.....	2392465.....	314991W.....	22980.....	22980.....
3141105.....	22733.....	22733.....	31412974J1.....	2392469.....	2392469.....	314991WYVW.....	2298000.....	2298000.....
3141105000.....	2273300.....	2273300.....	31412974K1.....	2392499.....	2392499.....	314991WYVY.....	2298002.....	2298002.....
314110W.....	22730.....	22730.....	3141297YVW.....	2392400 pt.....	2392400 pt.....	3149920.....	22960.....	22960.....
314110WYVW.....	2273000.....	2273000.....	314129W.....	239200 pt.....	239200 pt.....	3149920100.....	2296000 pt.....	2296000 pt.....
314110WYVY.....	2273002.....	2273002.....	314129WYVW.....	2392000 pt.....	2392000 pt.....	3149920YVW.....	2296000 pt.....	2296000 pt.....
3141210 pt.....	23910.....	23910.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149920YVY.....	2296002.....	2296002.....
3141210 pt.....	57140.....	57140.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991.....	22994.....	22994.....
3141210111.....	2391010.....	2391010.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991111.....	2299411.....	2299411.....
3141210221.....	2391012.....	2391012.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991121.....	2299413.....	2299413.....
3141210231.....	2391019.....	2391019.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991131.....	2299441.....	2299441.....
3141210241.....	2391023.....	2391023.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991YVW.....	2299400.....	2299400.....
3141210251.....	2391025.....	2391025.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993.....	22995.....	22995.....
3141210361.....	2391052.....	2391052.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993111.....	2299517.....	2299517.....
3141210371.....	2391059.....	2391059.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993121.....	2299519.....	2299519.....
3141210381.....	2391063.....	2391063.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
3141210391.....	2391062.....	2391062.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
31412104A1.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993141.....	2299533.....	2299533.....
3141210YVW pt.....	2391000.....	2391000.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993151.....	2299557.....	2299557.....
3141210YVW pt.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993YVW.....	2299500.....	2299500.....
3141210YVY pt.....	2391002.....	2391002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995.....	23952.....	23952.....
3141210YVY pt.....	5714002.....	5714002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995100.....	2395200.....	2395200.....
3141291.....	23921.....	23921.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997.....	23963 pt.....	23963 pt.....
3141291010.....	2392111.....	2392111.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997111.....	2396314.....	2396314.....
3141291020.....	2392114.....	2392114.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997121.....	2396333.....	2396333.....
3141291030.....	2392116.....	2392116.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997131.....	2396345.....	2396345.....
3141291040.....	2392120.....	2392120.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997YVW.....	2396300.....	2396300.....
3141291050.....	2392121.....	2392121.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	23990 pt.....	23990 pt.....
3141291060.....	2392113.....	2392113.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	39999 pt.....	39999 pt.....
3141291070.....	2392115.....	2392115.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999111.....	2399015.....	2399015.....
3141291YVW.....	2392100.....	2392100.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999231.....	2399041.....	2399041.....
3141293.....	23922.....	23922.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999371.....	2399097.....	2399097.....
3141293000.....	2392200.....	2392200.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999421.....	2399031.....	2399031.....
3141295.....	23923.....	23923.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999441.....	2399085.....	2399085.....
3141295010.....	2392310.....	2392310.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999451.....	2399093.....	2399093.....
3141295020.....	2392313.....	2392313.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999461.....	2399095.....	2399095.....
3141295YVW.....	2392300.....	2392300.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399099.....	2399099 pt.....
3141297.....	23924 pt.....	23924 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399995 pt.....	2399995 pt.....
3141297101.....	2392409.....	2392409.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399995 pt.....	2399995 pt.....
3141297210.....	2392412.....	2392412.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399000 pt.....	2399000 pt.....
3141297220.....	2392414.....	2392414.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399002 pt.....	2399002 pt.....
3141297230.....	2392416.....	2392416.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973J1.....	2392455.....	2392455.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973K1.....	2392456.....	2392456.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973L1.....	2392457.....	2392457.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412973M1.....	2392459.....	2392459.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297440.....	2392494.....	2392494.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297451.....	2392433.....	2392433.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297461.....	2392435.....	2392435.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
3141297471.....	2392436.....	2392436.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
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31412974A1 pt.....	2392439 pt.....	2392440.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....
31412974B1 pt.....	2392442 pt.....	2392441.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399900 pt.....	2399900 pt.....

Rope, Cordage, and Twine Mills

1997

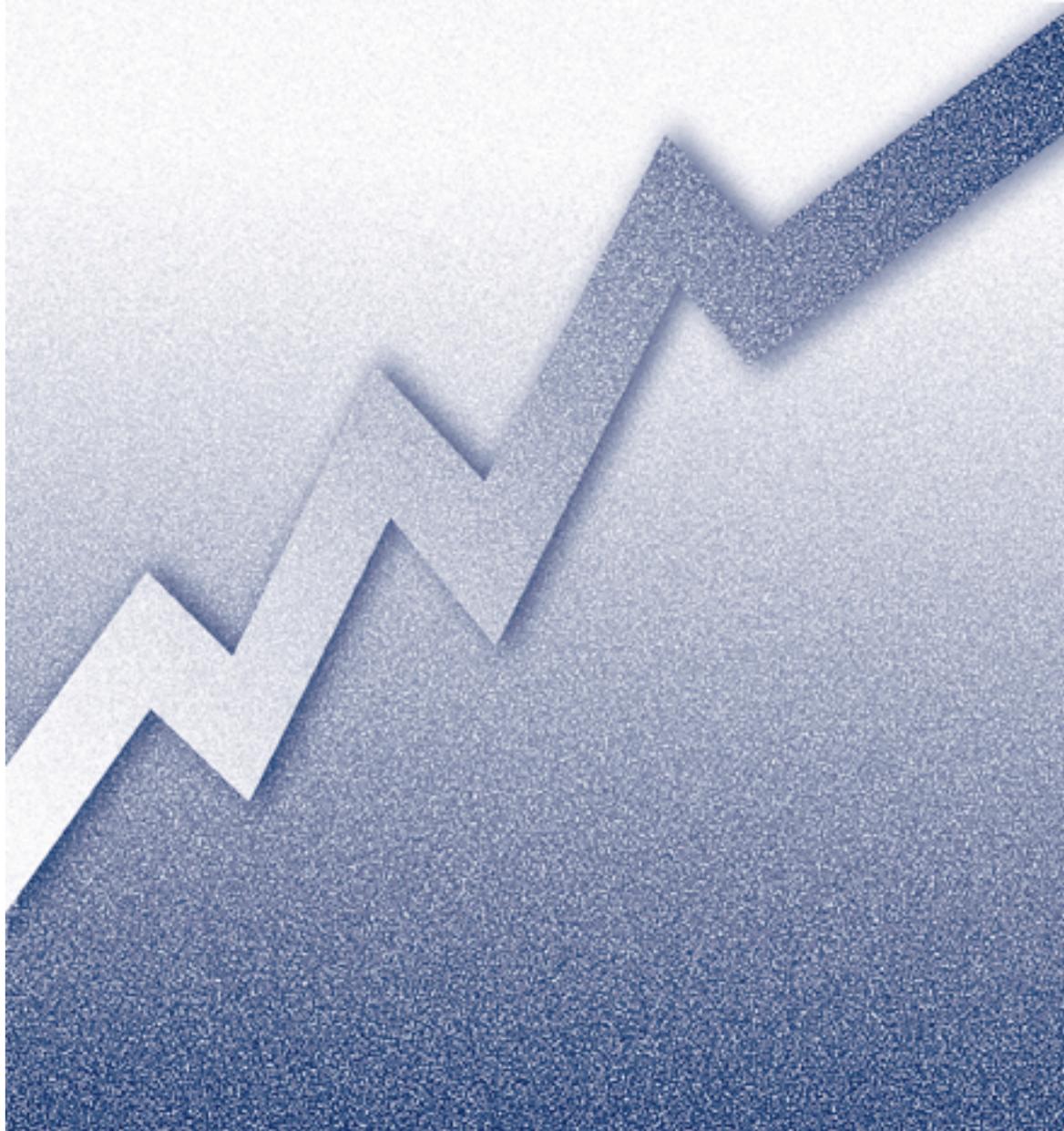
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1997 Economic Census

Manufacturing

Industry Series



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Rope, Cordage, and Twine Mills

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1997 Economic Census

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314991	Rope, cordage, & twine mills ...	189	201	6 417	159 268	4 866	9 711	94 903	361 338	411 187	777 091	25 018
229800	Cordage & twine	N	201	6 417	159 268	4 866	9 711	94 903	361 338	411 187	777 091	25 018

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314991, ROPE, CORDAGE, & TWINE MILLS												
United States	1	201	71	6 417	159 268	4 866	9 711	94 903	361 338	411 187	777 091	25 018
California	4	16	5	210	5 111	174	336	3 498	9 822	9 428	20 477	465
Florida	1	15	3	272	7 830	181	365	2 842	13 857	14 712	28 491	429
Georgia	-	11	5	462	9 738	424	912	8 688	33 923	43 140	64 549	598
Louisiana	-	4	1	151	3 027	124	262	2 429	7 392	9 863	19 607	560
Massachusetts	-	7	1	161	4 501	130	250	2 816	11 348	9 965	22 297	225
Michigan	4	5	3	111	2 591	79	140	1 299	5 167	4 336	9 303	200
Mississippi	-	5	4	220	4 700	182	412	3 512	12 268	9 493	21 431	971
Pennsylvania	1	9	4	355	10 241	219	467	4 881	20 883	48 791	74 638	953
Rhode Island	1	5	2	122	3 260	87	167	1 800	6 520	3 154	9 732	339
Texas	2	19	3	209	4 486	162	295	2 913	7 952	9 017	18 135	1 945
Washington	-	12	6	430	14 977	296	633	7 290	37 723	27 394	65 401	1 709

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314991, ROPE, CORDAGE, & TWINE MILLS		314991, ROPE, CORDAGE, & TWINE MILLS—Con.	
Companies ¹ number..	189	Value added \$1,000..	361 338
All establishments number..	201	Total inventories, beginning of year \$1,000..	141 534
Establishments with 1 to 19 employees number..	130	Finished goods inventories, beginning of year \$1,000..	80 631
Establishments with 20 to 99 employees number..	53	Work-in-process inventories, beginning of year \$1,000..	16 636
Establishments with 100 employees or more number..	18	Materials and supplies inventories, beginning of year \$1,000..	44 267
All employees number..	6 417	Total inventories, end of year \$1,000..	135 970
Total compensation ² \$1,000..	193 861	Finished goods inventories, end of year \$1,000..	70 567
Annual payroll \$1,000..	159 268	Work-in-process inventories, end of year \$1,000..	22 134
Total fringe benefits \$1,000..	34 593	Materials and supplies inventories, end of year \$1,000..	43 269
Production workers, average for year number..	4 866	Gross book value of total assets at beginning of year \$1,000..	227 463
Production workers on March 15 number..	4 923	Total capital expenditures (new and used) \$1,000..	25 018
Production workers on May 15 number..	4 889	Capital expenditures for buildings and other structures (new and used) \$1,000..	6 773
Production workers on August 15 number..	4 789	Capital expenditures for machinery and equipment (new and used) \$1,000..	18 245
Production workers on November 15 number..	4 863	Total retirements ² \$1,000..	4 660
Production-worker hours 1,000..	9 711	Gross book value of total assets at end of year \$1,000..	247 821
Production-worker wages \$1,000..	94 903	Total depreciation during year ² \$1,000..	15 896
Total cost of materials \$1,000..	411 187	Total rental payments ² \$1,000..	9 053
Cost of materials, parts, containers, etc., consumed \$1,000..	334 748	Buildings and other structures rental payments ² \$1,000..	5 473
Cost of resales \$1,000..	58 347	Machinery and equipment rental payments ² \$1,000..	3 580
Cost of fuels \$1,000..	2 292	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	1 087
Cost of purchased electricity \$1,000..	11 115	Response coverage ratio ⁴ percent..	82
Cost of contract work \$1,000..	4 685	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	6 336
Quantity of electricity purchased for heat and power 1,000 kWh..	192 504	Response coverage ratio ⁴ percent..	82
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Cost of purchased communications services ³ \$1,000..	2 720
Total value of shipments \$1,000..	777 091	Response coverage ratio ⁴ percent..	82
Primary products value of shipments \$1,000..	658 260	Cost of purchased legal services ³ \$1,000..	2 724
Secondary products value of shipments \$1,000..	37 266	Response coverage ratio ⁴ percent..	82
Total miscellaneous receipts \$1,000..	81 565	Cost of purchased accounting and bookkeeping services ³ \$1,000..	3 024
Value of resales \$1,000..	76 512	Response coverage ratio ⁴ percent..	82
Contract receipts \$1,000..	4 640	Cost of purchased advertising services ³ \$1,000..	13 548
Other miscellaneous receipts \$1,000..	4 413	Response coverage ratio ⁴ percent..	82
Primary products specialization ratio percent..	94	Cost of purchased software and other data processing services ³ \$1,000..	5 129
Value of primary products shipments made in all industries \$1,000..	695 731	Response coverage ratio ⁴ percent..	82
Value of primary products shipments made in this industry \$1,000..	658 260	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	486
Value of primary products shipments made in other industries \$1,000..	37 471	Response coverage ratio ⁴ percent..	82
Coverage ratio percent..	94		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314991, ROPE, CORDAGE, & TWINE MILLS												
All establishments	1	201	71	6 417	159 268	4 866	9 711	94 903	361 338	411 187	777 091	25 018
Establishments with 1 to 4 employees	8	62	—	142	2 530	115	199	1 622	5 158	7 331	13 674	390
Establishments with 5 to 9 employees	7	44	—	277	5 840	211	334	3 510	11 717	15 146	28 972	798
Establishments with 10 to 19 employees	4	24	—	341	6 279	251	454	3 749	13 235	17 943	32 126	1 231
Establishments with 20 to 49 employees	2	35	35	1 149	28 471	848	1 668	16 890	62 914	59 218	123 567	3 856
Establishments with 50 to 99 employees	1	18	18	1 207	28 265	906	1 820	17 650	69 076	85 643	148 060	5 115
Establishments with 100 to 249 employees	—	15	15	1 919	53 062	1 562	3 253	33 208	130 809	142 182	276 114	5 164
Establishments with 250 to 499 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	92	—	432	7 339	343	531	4 588	13 937	19 143	36 878	1 171

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314991	Rope, cordage, & twine mills	201	6 417	159 268	4 866	9 711	94 903	361 338	411 187	777 091	25 018
3149911	Cordage and twine, hard fiber	8	260	6 560	163	298	3 064	12 816	13 579	27 393	649
3149913	Cordage and twine, soft fiber (except cotton)	66	4 608	119 147	3 470	7 110	70 620	279 768	315 756	597 648	20 903
3149915	Cotton cordage and twine	12	599	14 673	477	968	8 573	30 922	33 410	59 671	919

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314991	Rope, cordage, and twine	N	X	X	695 731	N	X	X	625 362
3149911	Cordage and twine, hard fiber	N	X	X	49 430	N	X	X	124 676
31499111	Cordage and twine, hard fiber	N	X	X	42 954	N	X	X	N
314991111	Cordage and twine, hard fiber cordage rope and cable (including products of 3 strands or more) each strand composed of 2 yarns or more								
3149911121mil lb..	10	X	S	20 791	13	X	189.9	44 117
3149911121	Cordage and twine, hard fiber twine (including products laid or twisted, but not stranded, and twine of hard fiber and paper)	6	X	X	22 163	3	X	N	D
3149911Y	Cordage and twine, hard fiber, nsk	N	X	X	6 476	N	X	X	N
3149911YWV	Cordage and twine, hard fiber, nsk	N	X	X	6 476	N	X	X	D
3149913	Cordage and twine, soft fiber (except cotton)	N	X	X	503 547	N	X	X	362 559
31499131	Fish line and fish netting, commercial and recreational, manmade fiber	N	X	X	78 003	N	X	X	N
3149913111	Fish line, commercial, manmade fiber	7	X	X	D	7	X	N	5 315
3149913121	Fish line, recreational, manmade fiber	8	X	X	44 920	5	X	N	D
3149913131	Fish nets and fish netting, commercial, manmade fiber	10	X	X	28 072	10	X	N	20 893
3149913141	Fish nets and fish netting, recreational, manmade fiber	2	X	X	D	6	X	N	2 964
31499132	Rope three-sixteenths in. diameter and larger, manmade fiber	N	X	X	201 918	N	X	X	N
3149913251	Rope three-sixteenths in. diameter and larger, manmade fiber	28	X	¶104.8	201 918	32	X	58.5	118 888
31499133	Industrial and agriculture twine, less than three-sixteenths in. diameter, manmade fiber	N	X	X	90 820	N	X	X	N
3149913361	Industrial and agriculture twine, less than three-sixteenths in. diameter, manmade fiber	12	X	¶103.4	90 820	14	X	95.8	87 425
31499134	All other cordage and twine, manmade fiber	N	X	X	100 832	N	X	X	N
3149913471	All other cordage and twine, manmade fiber	29	X	S	100 832	29	X	149.2	70 273
31499135	Cordage and twine, soft fiber (except cotton and manmade, including hemp, jute, and paper)	N	X	X	D	N	X	X	N
3149913581	Cordage and twine, soft fiber (except cotton and manmade, including hemp, jute, and paper)	4	X	X	D	7	X	N	14 009
3149913Y	Cordage and twine, soft fiber (except cotton), nsk	N	X	X	D	N	N	X	N
3149913YWV	Cordage and twine, soft fiber (except cotton), nsk	N	X	X	D	N	X	X	D
3149915	Cotton cordage and twine	N	X	X	59 002	N	X	X	73 899
31499151	Cotton cordage and twine	N	X	X	55 525	N	X	X	N
3149915111	Cotton cordage and twine, braided, regardless of size	7	X	X	27 874	9	X	N	18 428
3149915121	Cotton cordage, wrapping, seine, and other twine	7	X	X	13 604	5	X	N	22 608
3149915131	All other cotton cordage and twine, including fish nets	9	X	X	14 047	10	X	N	17 981
3149915Y	Cotton cordage and twine, nsk	N	X	X	3 477	N	X	X	N
3149915YWV	Cotton cordage and twine, nsk	N	X	X	3 477	N	X	X	14 882
314991W	Rope, cordage, and twine, nsk, total	N	X	X	83 752	N	X	X	64 228
314991WY	Rope, cordage, and twine, nsk, total	N	X	X	83 752	N	X	X	N
314991WYWW	Rope, cordage, and twine, nsk, for nonadministrative-record establishments	N	X	X	48 689	N	X	X	43 323
314991WYWY	Rope, cordage, and twine, nsk, for administrative-record establishments	N	X	X	35 063	N	X	X	20 905

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 § This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; ¶ 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3149911	CORDAGE AND TWINE, HARD FIBER		
	United States	49 430	124 676
	North Carolina	17 366	25 727
3149913	CORDAGE AND TWINE, SOFT FIBER (EXCEPT COTTON)		
	United States	503 547	362 559
	California	13 941	24 088
	Florida	4 150	N
	Massachusetts	22 509	13 999
	New York	23 796	9 708
	North Carolina	12 082	23 780
	Pennsylvania	63 312	23 177
	Tennessee	7 540	N
	Texas	8 637	N
	Utah	43 023	N
	Washington	50 275	38 539
3149915	COTTON CORDAGE AND TWINE		
	United States	59 002	73 899

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314991	ROPE, CORDAGE, & TWINE MILLS				
32520003	Manmade fibers, staple, and tow	X	53 093	N	37 717
31311003	Yarn, all fibers	X	85 476	N	80 437
31320013	Cotton fabrics	X	D	N	D
31320015	Manmade fiber fabrics, including glass	X	D	N	2 801
32212003	Paper (cellulosic wadding)	X	D	N	3 492
32552009	Adhesives and binders (resins)	X	1 025	N	D
32510059	Plasticizers	X	377	N	D
32521139	Vinyl and vinyl copolymer resins, all forms	X	D	N	D
32521115	Plastics resins (except vinyl) consumed in the form of granules, pellets, powders, liquids, etc.	X	51 354	N	40 864
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	D	X	D
32521213	Ethylene-propylene type plastics and synthetic rubber	X	D	N	N
32520007	Other plastics materials and synthetic resins, synthetic rubber, cellulosic and other manmade fibers, except glass	X	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	57 239	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	38 452	X	36 238

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314991 ROPE, CORDAGE, AND TWINE MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing rope, cable, cordage, twine, and related products from all materials (e.g., abaca, sisal, henequen, hemp, cotton, paper, jute, flax, manmade fibers including glass).

The data published with NAICS code 314991 include the following SIC industry:

2298 Cordage and twine

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101	22731	22731	31412974B1 pt	2392442 pt	2392443	3149915	22983	22983
3141101000	2273100	2273100	31412974C1 pt	2392444 pt	2392446	3149915111	2298311	2298311
3141103	22732	22732	31412974D1 pt	2392449 pt	2392450	3149915121	2298325	2298325
3141103110	2273220	2273220	31412974E1	2392454	2392454	3149915131	2298398	2298398
3141103220	2273240	2273240	31412974F1	2392463	2392463	3149915YVW	2298300	2298300
3141103YVW	2273200	2273200	31412974H1	2392465	2392465	314991W	22980	22980
3141105	22733	22733	31412974J1	2392469	2392469	314991WYVW	2298000	2298000
3141105000	2273300	2273300	31412974K1	2392499	2392499	314991WYVY	2298002	2298002
314110W	22730	22730	3141297YVW	2392400 pt	2392400 pt	3149920	22960	22960
314110WYVW	2273000	2273000	314129W	23920 pt	23920 pt	3149920100	2296000 pt	2296000 pt
314110WYVY	2273002	2273002	314129WYVW	2392000 pt	2392000 pt	3149920YVW	2296000 pt	2296000 pt
3141210 pt	23910	23910	314129WYVY	2392002 pt	2392002 pt	3149920YVY	2296002	2296002
3141210 pt	57140	57140	314129WYVY	2392002 pt	2392002 pt	3149991	22994	22994
3141210111	2391010	2391010	3149110 pt	23920 pt	23920 pt	3149991111	2299411	2299411
3141210221	2391012	2391012	3149110 pt	23924 pt	23924 pt	3149991121	2299413	2299413
3141210231	2391019	2391019	3149110 pt	23924 pt	23924 pt	3149991131	2299441	2299441
3141210241	2391023	2391023	3149110 pt	23930	23930	3149991YVW	2299400	2299400
3141210251	2391025	2391025	3149110111	2393012	2393012	3149993	22995	22995
3141210361	2391052	2391052	3149110151	2393091	2393091	3149993111	2299517	2299517
3141210371	2391059	2391059	3149110221	2393013	2393013	3149993121	2299519	2299519
3141210381	2391063	2391063	3149110231	2392481	2392481	3149993131 pt	2299532 pt	2299532
3141210391	2391062	2391062	3149110241	2393031	2393031	3149993131 pt	2299532 pt	2299532
31412104A1	5714000 pt	5714000 pt	3149110261	2393092	2393095 pt	3149993141	2299533	2299533
3141210YVW pt	2391000	2391000	3149110271	2393099	2393095 pt	3149993151	2299557	2299557
3141210YVW pt	5714000 pt	5714000 pt	3149110281	2393094	2393095 pt	3149993YVW	2299500	2299500
3141210YVY pt	2391002	2391002	3149110291	2393096	2393096	3149995	23952	23952
3141210YVY pt	5714002	5714002	31491102A1 pt	2393098 pt	2393018	3149995100	2395200	2395200
3141291	23921	23921	31491102A1 pt	2393098 pt	2393097	3149997	23963 pt	23963 pt
3141291010	2392111	2392111	3149110YVW pt	2392000 pt	2392000 pt	3149997111	2396314	2396312
3141291020	2392114	2392114	3149110YVW pt	2392400 pt	2392400 pt	3149997121	2396333	2396333
3141291030	2392116	2392116	3149110YVW pt	2393000	2393000	3149997131	2396345	2396345
3141291040	2392120	2392120	3149110YVY pt	2392002 pt	2392002 pt	3149997YVW	2396300	2396300
3141291050	2392121	2392121	3149110YVY pt	2393002	2393002	3149999 pt	23990 pt	23990 pt
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3141291070	2392115	2392115	3149120111	2394021	2394021	3149999111	2399015	2399015
3141291YVW	2392100	2392100	3149120221	2394034	2394034	3149999231	2399041	2399041
3141293	23922	23922	3149120331	2394036	2394036	3149999371	2399097	2399097
3141293000	2392200	2392200	3149120441	2394053	2394053	3149999421	2399031	2399031
3141295	23923	23923	3149120551	2394055	2394055	3149999441	2399085	2399085
3141295010	2392310	2392310	3149120661	2394061	2394061	3149999451	2399093	2399093
3141295020	2392313	2392313	3149120671	2394064	2394064	3149999461	2399095	2399095
3141295YVW	2392300	2392300	3149120YVW	2394000	2394000	3149999481 pt	2399099	2399098 pt
3141297	23924 pt	23924 pt	3149120YVY	2394002	2394002	3149999481 pt	3999995 pt	3999913 pt
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3141297210	2392412	2392412	3149911111	2298111	2298111	3149999YVW pt	2399000 pt	2399000 pt
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3141297230	2392416	2392416	3149911YVW	2298100	2298100	3149999YVW pt	3999900 pt	3999900 pt
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31412973K1	2392456	2392456	3149913111	2298201	2298201	314999W pt	23950 pt	23950 pt
31412973L1	2392457	2392457	3149913121	2298202	2298202	314999W pt	23960 pt	23960 pt
31412973M1	2392459	2392459	3149913131	2298203	2298203	314999W pt	39990 pt	39990 pt
3141297440	2392494	2392494	3149913141	2298205	2298205	314999WYVW pt	2299000 pt	2299000 pt
3141297451	2392433	2392433	3149913251	2298208	2298208	314999WYVW pt	2395000 pt	2395000 pt
3141297461	2392435	2392435	3149913361	2298214	2298214	314999WYVW pt	2396000 pt	2396000 pt
3141297471	2392436	2392436	3149913471	2298219	2298219	314999WYVY pt	3999000 pt	3999000 pt
3141297481	2392437	2392437	3149913581	2298228	2298228	314999WYVY pt	2299002 pt	2299002 pt
31412974A1 pt	2392439 pt	2392438	3149913YVW	2298200	2298200	314999WYVY pt	2395002 pt	2395002 pt
31412974A1 pt	2392439 pt	2392440				314999WYVY pt	2396002 pt	2396002 pt
31412974B1 pt	2392442 pt	2392441				314999WYVY pt	3999002 pt	3999002 pt

Tire Cord and Tire Fabric Mills

1997

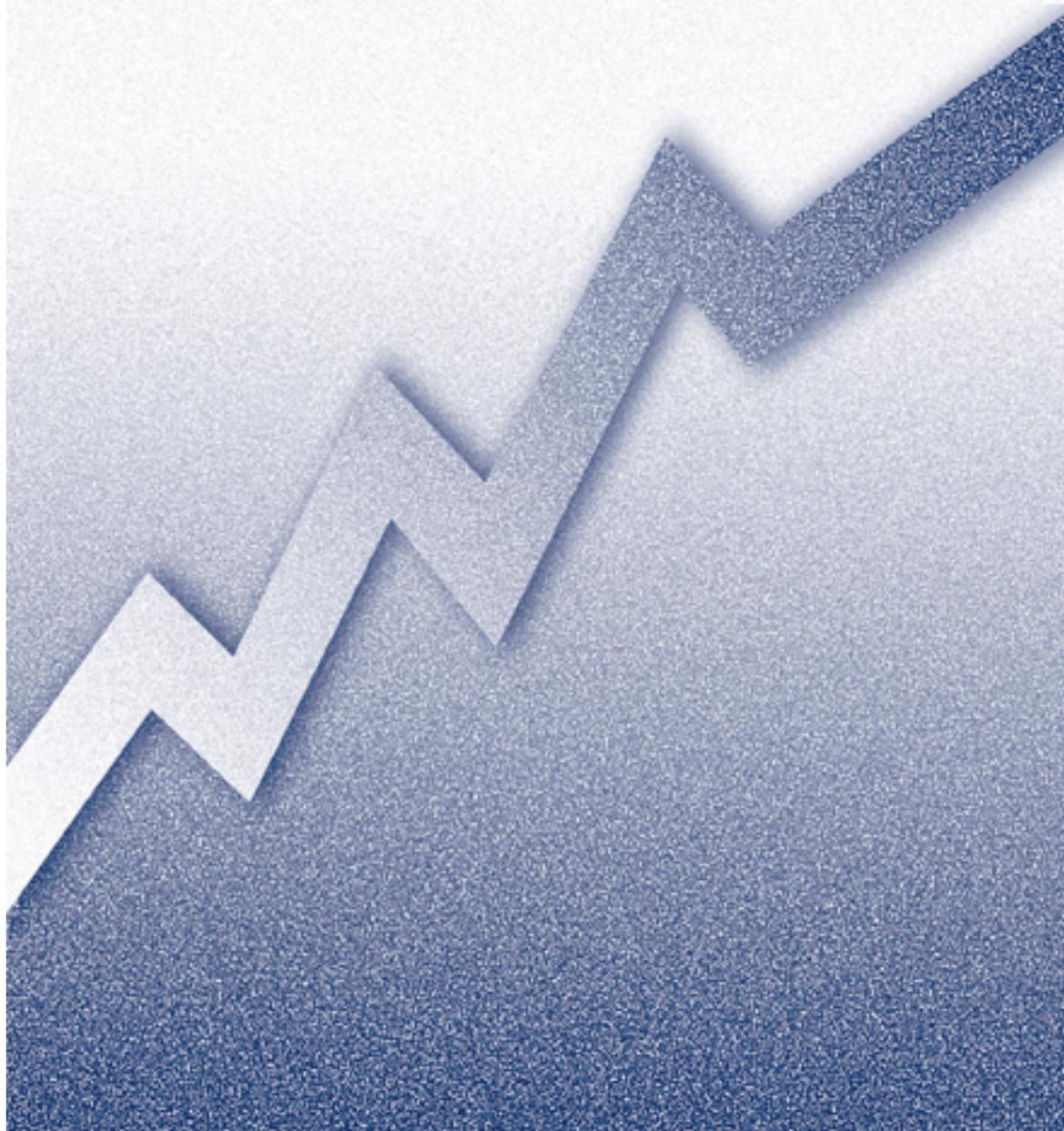
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1997 Economic Census

Manufacturing

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1997 Economic Census

Manufacturing

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314992	Tire cord & tire fabric mills	15	20	5 699	166 982	4 711	9 919	122 149	420 327	790 743	1 207 840	70 152
229600	Tire cord & fabric.....	N	20	5 699	166 982	4 711	9 919	122 149	420 327	790 743	1 207 840	70 152

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314992, TIRE CORD & TIRE FABRIC MILLS												
United States	-	20	17	5 699	166 982	4 711	9 919	122 149	420 327	790 743	1 207 840	70 152
Georgia.....	-	3	3	1 614	42 427	1 415	2 965	34 749	90 674	194 221	288 320	7 286

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314992, TIRE CORD & TIRE FABRIC MILLS		314992, TIRE CORD & TIRE FABRIC MILLS—Con.	
Companies ¹ number..	15	Value added \$1,000..	420 327
All establishments number..	20	Total inventories, beginning of year \$1,000..	116 809
Establishments with 1 to 19 employees number..	3	Finished goods inventories, beginning of year \$1,000..	47 964
Establishments with 20 to 99 employees number..	2	Work-in-process inventories, beginning of year \$1,000..	28 482
Establishments with 100 employees or more number..	15	Materials and supplies inventories, beginning of year \$1,000..	40 363
All employees number..	5 699	Total inventories, end of year \$1,000..	126 223
Total compensation ² \$1,000..	224 439	Finished goods inventories, end of year \$1,000..	51 556
Annual payroll \$1,000..	166 982	Work-in-process inventories, end of year \$1,000..	28 120
Total fringe benefits \$1,000..	57 457	Materials and supplies inventories, end of year \$1,000..	46 547
Production workers, average for year number..	4 711	Gross book value of total assets at beginning of year \$1,000..	1 036 553
Production workers on March 15 number..	4 733	Total capital expenditures (new and used) \$1,000..	70 152
Production workers on May 15 number..	4 743	Capital expenditures for buildings and other structures (new and used) \$1,000..	11 136
Production workers on August 15 number..	4 706	Capital expenditures for machinery and equipment (new and used) \$1,000..	59 016
Production workers on November 15 number..	4 662	Total retirements ² \$1,000..	13 372
Production-worker hours 1,000..	9 919	Gross book value of total assets at end of year \$1,000..	1 093 333
Production-worker wages \$1,000..	122 149	Total depreciation during year ² \$1,000..	72 614
Total cost of materials \$1,000..	790 743	Total rental payments ² \$1,000..	6 016
Cost of materials, parts, containers, etc., consumed \$1,000..	723 373	Buildings and other structures rental payments ² \$1,000..	2 761
Cost of resales \$1,000..	D	Machinery and equipment rental payments ² \$1,000..	3 255
Cost of fuels \$1,000..	9 674	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	1 389
Cost of purchased electricity \$1,000..	37 624	Response coverage ratio ⁴ percent..	75
Cost of contract work \$1,000..	D	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	21 688
Quantity of electricity purchased for heat and power 1,000 kWh..	906 534	Response coverage ratio ⁴ percent..	75
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Cost of purchased communications services ³ \$1,000..	676
Total value of shipments \$1,000..	1 207 840	Response coverage ratio ⁴ percent..	75
Primary products value of shipments \$1,000..	D	Cost of purchased legal services ³ \$1,000..	228
Secondary products value of shipments \$1,000..	D	Response coverage ratio ⁴ percent..	75
Total miscellaneous receipts \$1,000..	30 596	Cost of purchased accounting and bookkeeping services ³ \$1,000..	190
Value of resales \$1,000..	D	Response coverage ratio ⁴ percent..	75
Contract receipts \$1,000..	—	Cost of purchased advertising services ³ \$1,000..	30
Other miscellaneous receipts \$1,000..	D	Response coverage ratio ⁴ percent..	75
Primary products specialization ratio percent..	D	Cost of purchased software and other data processing services ³ \$1,000..	242
Value of primary products shipments made in all industries \$1,000..	1 233 703	Response coverage ratio ⁴ percent..	75
Value of primary products shipments made in this industry \$1,000..	D	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	2 801
Value of primary products shipments made in other industries \$1,000..	D	Response coverage ratio ⁴ percent..	75
Coverage ratio percent..	D		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314992, TIRE CORD & TIRE FABRIC MILLS												
All establishments	-	20	17	5 699	166 982	4 711	9 919	122 149	420 327	790 743	1 207 840	70 152
Establishments with 1 to 4 employees	-	1	-	D	D	D	D	D	D	D	D	D
Establishments with 5 to 9 employees	-	-	-	-	-	-	-	-	-	-	-	-
Establishments with 10 to 19 employees	6	2	-	D	D	D	D	D	D	D	D	D
Establishments with 20 to 49 employees	8	2	2	D	D	D	D	D	D	D	D	D
Establishments with 50 to 99 employees	-	-	-	-	-	-	-	-	-	-	-	-
Establishments with 100 to 249 employees	3	4	4	877	24 690	698	1 376	16 776	53 978	113 189	165 555	25 844
Establishments with 250 to 499 employees	-	7	7	2 307	67 964	1 991	4 006	50 917	196 170	288 397	487 905	22 523
Establishments with 500 to 999 employees	-	4	4	2 400	71 663	1 946	4 393	52 884	156 434	336 449	488 077	20 089
Establishments with 1,000 to 2,499 employees	-	-	-	-	-	-	-	-	-	-	-	-
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	-	-	-	-	-	-	-	-	-	-	-	-

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314992	Tire cord & tire fabric mills	20	5 699	166 982	4 711	9 919	122 149	420 327	790 743	1 207 840	70 152

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314992	Tire cord and tire fabrics	N	X	X	1 233 703	N	X	X	928 006
3149920	Tire cord and tire fabrics @	N	X	X	1 233 703	N	X	X	928 006
31499201	Tire cord and tire fabrics	N	X	X	1 233 703	N	X	X	N
3149920100	Tire cord and tire fabricsmil lb..	16	853.0	683.3	1 233 703	N	N	N	N
3149920Y	Tire cord and tire fabrics, nsk	N	X	X	-	N	X	X	N
3149920YWW	Tire cord and tire fabrics, nsk, for nonadministrative-record establishments	N	X	X	-	N	X	X	N
3149920YWY	Tire cord and tire fabrics, nsk, for administrative record establishments	N	X	X	-	N	X	X	-

Additional information is available for this item; see Appendix F.

@ Additional data are available for this item in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314992	TIRE CORD & TIRE FABRIC MILLS				
32522215	Nylon staple and towmil lb..	D	D	D	D
32522223	Polyester staple and towmil lb..	D	D	90.7	100 097
32522101	Rayon, acetate, and/or lyocell filament yarnsmil lb..	D	D	3.5	5 859
32522211	Nylon filament yarnsmil lb..	109.5	205 518	49.7	61 506
32522221	Polyester filament yarnsmil lb..	134.9	243 179	82.5	110 681
32522203	All other filament yarns, except glassmil lb..	D	D	D	D
32721207	Glass filament yarn and rovingmil lb..	D	D	1.5	2 195
31311101	Spun yarn, all fibers	D	D	D	D
31321027	Broadwoven fabricsmil sq yd..	D	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	171 172	X	73 337
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	1 016	X	D

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314992 TIRE CORD AND TIRE FABRIC MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing cord and fabric of polyester, rayon, cotton, glass, steel, or other materials for use in reinforcing rubber tires, industrial belting, and similar uses.

The data published with NAICS code 314992 include the following SIC industry:

2296 Tire cord and fabric

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. **Products Statistics (Tables 6a and 6b)**

NAICS product code	Footnote
@3149920	For additional detail, see Current Industrial Report MQ313T, Broadwoven Fabrics.

Part 2. **Materials Consumed by Kind (Table 7)**

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101	22731	22731	31412974B1 pt	2392442 pt	2392443	3149915	22983	22983
3141101000	2273100	2273100	31412974C1 pt	2392444 pt	2392446	3149915111	2298311	2298311
3141103	22732	22732	31412974D1 pt	2392449 pt	2392450	3149915121	2298325	2298325
3141103110	2273220	2273220	31412974E1	2392454	2392454	3149915131	2298398	2298398
3141103220	2273240	2273240	31412974F1	2392463	2392463	3149915YVW	2298300	2298300
3141103YVW	2273200	2273200	31412974H1	2392465	2392465	314991W	22980	22980
3141105	22733	22733	31412974J1	2392469	2392469	314991WYVW	2298000	2298000
3141105000	2273300	2273300	31412974K1	2392499	2392499	314991WYVY	2298002	2298002
314110W	22730	22730	3141297YVW	2392400 pt	2392400 pt	3149920	22960	22960
314110WYVW	2273000	2273000	314129W	23920 pt	23920 pt	3149920100	2296000 pt	2296000 pt
314110WYVY	2273002	2273002	314129WYVW	2392000 pt	2392000 pt	3149920YVW	2296000 pt	2296000 pt
3141210 pt	23910	23910	314129WYVY	2392002 pt	2392002 pt	3149920YVY	2296002	2296002
3141210 pt	57140	57140	314129WYVY	2392002 pt	2392002 pt	3149991	22994	22994
3141210111	2391010	2391010	314129WYVY	2392002 pt	2392002 pt	3149991111	2299411	2299411
3141210221	2391012	2391012	314129WYVY	2392002 pt	2392002 pt	3149991121	2299413	2299413
3141210231	2391019	2391019	314129WYVY	2392002 pt	2392002 pt	3149991131	2299441	2299441
3141210241	2391023	2391023	314129WYVY	2392002 pt	2392002 pt	3149991YVW	2299400	2299400
3141210251	2391025	2391025	314129WYVY	2392002 pt	2392002 pt	3149993	22995	22995
3141210361	2391052	2391052	314129WYVY	2392002 pt	2392002 pt	3149993111	2299517	2299517
3141210371	2391059	2391059	314129WYVY	2392002 pt	2392002 pt	3149993121	2299519	2299519
3141210381	2391063	2391063	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299532
3141210391	2391062	2391062	314129WYVY	2392002 pt	2392002 pt	3149993131 pt	2299532 pt	2299533
31412104A1	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993141	2299533	2299533
3141210YVW pt	2391000	2391000	314129WYVY	2392002 pt	2392002 pt	3149993151	2299557	2299557
3141210YVW pt	5714000 pt	5714000 pt	314129WYVY	2392002 pt	2392002 pt	3149993YVW	2299500	2299500
3141210YVY pt	2391002	2391002	314129WYVY	2392002 pt	2392002 pt	3149995	23952	23952
3141210YVY pt	5714002	5714002	314129WYVY	2392002 pt	2392002 pt	3149995100	2395200	2395200
3141291	23921	23921	314129WYVY	2392002 pt	2392002 pt	3149997	23963 pt	23963 pt
3141291010	2392111	2392111	314129WYVY	2392002 pt	2392002 pt	3149997111	2396314	2396312
3141291020	2392114	2392114	314129WYVY	2392002 pt	2392002 pt	3149997121	2396333	2396333
3141291030	2392116	2392116	314129WYVY	2392002 pt	2392002 pt	3149997131	2396345	2396345
3141291040	2392120	2392120	314129WYVY	2392002 pt	2392002 pt	3149997YVW	2396300	2396300
3141291050	2392121	2392121	314129WYVY	2392002 pt	2392002 pt	3149999 pt	23990 pt	23990 pt
3141291060	2392113	2392113	314129WYVY	2392002 pt	2392002 pt	3149999 pt	39999 pt	39999 pt
3141291070	2392115	2392115	314129WYVY	2392002 pt	2392002 pt	3149999111	2399015	2399015
3141291YVW	2392100	2392100	314129WYVY	2392002 pt	2392002 pt	3149999231	2399041	2399041
3141293	23922	23922	314129WYVY	2392002 pt	2392002 pt	3149999371	2399097	2399097
3141293000	2392200	2392200	314129WYVY	2392002 pt	2392002 pt	3149999421	2399031	2399031
3141295	23923	23923	314129WYVY	2392002 pt	2392002 pt	3149999441	2399085	2399085
3141295010	2392310	2392310	314129WYVY	2392002 pt	2392002 pt	3149999451	2399093	2399093
3141295020	2392313	2392313	314129WYVY	2392002 pt	2392002 pt	3149999461	2399095	2399095
3141295YVW	2392300	2392300	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399099	2399098 pt
3141297	23924 pt	23924 pt	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399095 pt
3141297101	2392409	2392409	314129WYVY	2392002 pt	2392002 pt	3149999481 pt	2399095 pt	2399099 pt
3141297210	2392412	2392412	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399000 pt	2399000 pt
3141297220	2392414	2392414	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399002 pt	2399002 pt
3141297230	2392416	2392416	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973J1	2392455	2392455	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973K1	2392456	2392456	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973L1	2392457	2392457	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412973M1	2392459	2392459	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297440	2392494	2392494	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297451	2392433	2392433	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297461	2392435	2392435	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297471	2392436	2392436	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
3141297481	2392437	2392437	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392438	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974A1 pt	2392439 pt	2392440	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt
31412974B1 pt	2392442 pt	2392441	314129WYVY	2392002 pt	2392002 pt	3149999YVW pt	2399900 pt	2399900 pt

All Other Miscellaneous Textile Product Mills

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314999	All other miscellaneous textile product mills	2 163	2 237	64 413	1 352 496	51 066	96 047	884 028	2 930 027	3 269 416	6 188 857	206 054
229970	Textile goods, n.e.c. (pt)	N	253	11 159	290 270	8 702	18 765	190 554	638 373	859 693	1 495 546	58 891
239510	Pleating & stitching (pt)	N	805	15 001	279 321	11 574	20 983	185 170	474 422	406 449	880 413	44 739
239610	Automotive & apparel trimmings (pt)	N	262	3 677	81 958	2 647	4 382	41 106	160 428	154 078	315 010	8 639
239910	Fabricated textile products, n.e.c. (pt)	N	865	32 409	658 274	26 407	49 100	441 480	1 561 054	1 772 631	3 324 535	85 620
399905	Manufacturing industries, n.e.c. (pt)	N	52	2 167	42 673	1 736	2 817	25 718	95 750	76 565	173 353	8 165

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314999, ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS												
United States	2	2 237	697	64 413	1 352 496	51 066	96 047	884 028	2 930 027	3 269 416	6 188 857	206 054
Alabama	5	32	19	3 349	87 679	2 475	4 518	54 800	160 109	192 030	349 667	20 104
California	3	352	108	7 605	132 731	6 110	13 022	89 785	274 424	262 786	537 730	18 140
Florida	2	124	33	2 368	41 966	1 957	3 138	26 319	86 407	75 208	160 921	3 307
Georgia	1	97	51	6 403	149 586	5 178	10 768	96 357	383 665	525 976	914 182	27 627
Louisiana	6	10	2	104	1 148	81	114	768	1 875	2 258	4 152	220
Maryland	3	14	2	159	3 202	135	204	1 733	7 594	6 801	14 357	473
Massachusetts	-	75	24	2 033	58 993	1 539	2 881	33 692	115 071	135 838	246 315	12 675
Michigan	-	55	12	1 330	29 689	1 058	2 124	19 042	53 414	88 656	142 009	4 815
Mississippi	2	19	10	935	19 557	716	1 378	13 742	47 657	43 690	90 701	5 715
Missouri	3	44	13	1 043	20 936	863	1 643	14 640	43 125	38 518	82 626	2 321
Montana	8	10	2	149	2 592	112	137	1 286	7 298	4 113	11 110	345
New Jersey	2	145	36	2 857	61 808	2 288	4 248	41 674	160 207	104 394	264 107	5 112
New York	3	217	53	4 294	81 958	3 225	5 495	48 546	160 303	146 065	309 341	9 683
North Carolina	1	123	55	4 565	99 038	3 539	5 965	67 903	205 184	187 747	384 464	12 681
Pennsylvania	2	83	28	2 088	38 711	1 631	2 715	24 018	80 183	61 033	136 235	4 285
Rhode Island	1	14	3	520	11 650	419	824	7 051	30 038	16 397	45 375	1 891
South Carolina	-	60	28	4 342	97 380	3 350	6 826	63 699	168 292	391 760	564 574	20 531
Texas	2	112	36	2 825	51 902	2 332	4 312	33 876	119 764	105 721	223 826	5 657
Washington	4	50	6	441	9 246	339	599	5 374	18 088	14 321	32 370	721

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
314999, ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS		314999, ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS—Con.	
Companies ¹	number.. 2 163	Value added	\$1,000.. 2 930 027
All establishments	number.. 2 237	Total inventories, beginning of year	\$1,000.. 775 760
Establishments with 1 to 19 employees	number.. 1 540	Finished goods inventories, beginning of year	\$1,000.. 325 053
Establishments with 20 to 99 employees	number.. 569	Work-in-process inventories, beginning of year	\$1,000.. 101 684
Establishments with 100 employees or more	number.. 128	Materials and supplies inventories, beginning of year	\$1,000.. 349 023
All employees	number.. 64 413	Total inventories, end of year	\$1,000.. 773 013
Total compensation ²	\$1,000.. 1 628 611	Finished goods inventories, end of year	\$1,000.. 328 721
Annual payroll	\$1,000.. 1 352 496	Work-in-process inventories, end of year	\$1,000.. 108 602
Total fringe benefits	\$1,000.. 276 115	Materials and supplies inventories, end of year	\$1,000.. 335 690
Production workers, average for year	number.. 51 066	Gross book value of total assets at beginning of year	\$1,000.. 1 509 791
Production workers on March 12	number.. 50 634	Total capital expenditures (new and used)	\$1,000.. 206 054
Production workers on May 12	number.. 50 734	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 32 576
Production workers on August 12	number.. 51 649	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 173 478
Production workers on November 12	number.. 51 243	Total retirements ²	\$1,000.. 71 040
Production-worker hours	1,000.. 96 047	Gross book value of total assets at end of year	\$1,000.. 1 644 805
Production-worker wages	\$1,000.. 884 028	Total depreciation during year ²	\$1,000.. 122 244
Total cost of materials	\$1,000.. 3 269 416	Total rental payments ²	\$1,000.. 81 294
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 948 063	Buildings and other structures rental payments ²	\$1,000.. 45 325
Cost of resales	\$1,000.. 158 139	Machinery and equipment rental payments ²	\$1,000.. 35 969
Cost of fuels	\$1,000.. 32 403	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 9 760
Cost of purchased electricity	\$1,000.. 59 438	Response coverage ratio ⁴	percent.. 74
Cost of contract work	\$1,000.. 71 373	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 47 272
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 086 153	Response coverage ratio ⁴	percent.. 74
Quantity of electricity generated less sold for heat and power	1,000 kWh.. 34 239	Cost of purchased communications services ³	\$1,000.. 15 830
Total value of shipments	\$1,000.. 6 188 857	Response coverage ratio ⁴	percent.. 74
Primary products value of shipments	\$1,000.. 5 475 456	Cost of purchased legal services ³	\$1,000.. 4 087
Secondary products value of shipments	\$1,000.. 400 992	Response coverage ratio ⁴	percent.. 74
Total miscellaneous receipts	\$1,000.. 312 409	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 5 713
Value of resales	\$1,000.. 179 734	Response coverage ratio ⁴	percent.. 74
Contract receipts	\$1,000.. 96 471	Cost of purchased advertising services ³	\$1,000.. 14 398
Other miscellaneous receipts	\$1,000.. 36 204	Response coverage ratio ⁴	percent.. 74
Primary products specialization ratio	percent.. 93	Cost of purchased software and other data processing services ³	\$1,000.. 5 246
Value of primary products shipments made in all industries	\$1,000.. 6 058 489	Response coverage ratio ⁴	percent.. 74
Value of primary products shipments made in this industry	\$1,000.. 5 475 456	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 6 497
Value of primary products shipments made in other industries	\$1,000.. 583 033	Response coverage ratio ⁴	percent.. 74
Coverage ratio	percent.. 90		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314999, ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS												
All establishments	2	2 237	697	64 413	1 352 496	51 066	96 047	884 028	2 930 027	3 269 416	6 188 857	206 054
Establishments with 1 to 4 employees	7	727	—	1 465	29 907	1 179	1 809	19 937	50 461	48 423	99 121	5 006
Establishments with 5 to 9 employees	5	414	—	2 843	53 201	2 196	3 653	33 784	113 275	107 767	221 238	6 902
Establishments with 10 to 19 employees	4	399	—	5 411	96 092	4 144	9 248	61 065	188 412	183 265	373 977	11 839
Establishments with 20 to 49 employees	2	404	404	12 568	244 352	9 829	16 722	152 184	581 396	486 718	1 063 157	32 482
Establishments with 50 to 99 employees	1	165	165	11 533	231 516	9 177	16 376	143 319	547 077	508 215	1 048 373	33 921
Establishments with 100 to 249 employees	1	90	90	13 418	277 284	10 648	20 326	183 842	582 296	695 331	1 269 383	44 154
Establishments with 250 to 499 employees	—	29	29	10 120	229 456	8 167	15 856	157 936	487 349	616 205	1 101 790	36 829
Establishments with 500 to 999 employees	—	8	8	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	9	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	579	—	2 787	38 943	2 230	3 050	25 078	81 761	86 417	168 190	7 022

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
314999	All other miscellaneous textile product mills	2 237	64 413	1 352 496	51 066	96 047	884 028	2 930 027	3 269 416	6 188 857	206 054
3149991	Recovered fibers, processed mill waste, and related products	27	2 703	79 199	1 971	3 897	48 176	181 344	306 518	493 340	20 171
3149993	Paddings and upholstery filling, batting, and wadding (excluding foam rubber and plastics)	73	4 646	126 344	3 685	7 788	83 390	278 187	332 284	605 684	21 115
3149995	Embroideries (except Schiffli machine products)	248	7 366	134 709	5 705	10 525	88 789	246 684	210 620	455 880	15 579
3149997	Other trimmings and findings	68	2 585	66 303	1 770	3 271	32 244	127 913	117 496	245 805	4 877
3149999	Fabricated textile products, nec	691	30 933	640 779	25 228	47 598	426 581	1 526 292	1 724 288	3 242 867	88 228

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314999	All other miscellaneous textile products	N	X	X	6 058 489	N	X	X	N
3149991	Recovered fibers, processed mill waste, and related products	N	X	X	435 897	N	X	X	292 964
31499911	Recovered fibers, processed mill waste and related products	N	X	X	415 224	N	X	X	N
3149991111	Fibers recovered from mill waste, manmade fibers	19	X	S	98 130	23	X	P530.0	134 808
3149991121	Fibers recovered from mill waste, all other fibers, including oakum	10	X	S	88 686	14	X	P129.6	50 443
3149991131	Flock, all fibers (new stock, waste, or reclaimed fiber)	7	X	9549.5	228 408	13	X	9163.0	91 294
3149991Y	Recovered fibers, processed mill waste and related products, nsk	N	X	X	20 673	N	X	X	N
3149991YVV	Recovered fibers, processed mill waste and related products, nsk	N	X	X	20 673	N	X	X	16 419
3149993	Paddings and upholstery filling, batting, and wadding (except foam rubber and plastics)	N	X	X	607 878	N	X	X	534 982
31499931	Paddings and upholstery filling, batting, and wadding (except foam rubber and plastics)	N	X	X	564 932	N	X	X	N
3149993111	Automotive pads (except foam rubber and plastics)	12	X	S	102 505	11	X	S	81 917
3149993121	All other paddings (except foam rubber and plastics)	25	X	S	105 756	22	X	P44.7	81 159
3149993131	Batting, wadding, and mattress felts (except foam rubber and plastics) made from cotton linters, cotton waste, raw cotton, and all other natural fibers	26	X	9224.6	95 425	N	X	X	N
3149993141	Batting, wadding, and mattress felts (except foam rubber and plastics) made from manmade fibers	22	X	S	195 616	34	X	X	141 939
3149993151	Upholstery filling (except foam rubber and plastics)	13	X	S	65 630	14	X	P73.3	77 014
3149993Y	Paddings and upholstery filling, batting, and wadding (except foam rubber and plastics) nsk	N	X	X	42 946	N	X	X	N
3149993YVV	Paddings and upholstery filling, batting, and wadding (except foam rubber and plastics) nsk	N	X	X	42 946	N	X	X	38 832
3149995	Embroideries (except Schiffl machine products)	N	X	X	557 213	N	X	X	414 886
31499951	Embroideries (except Schiffl machine products)	N	X	X	557 213	N	X	X	N
3149995100	Embroideries (except Schiffl machine products)	328	X	X	557 213	165	X	X	414 886
3149997	Other trimmings and findings	N	X	X	208 616	N	X	X	N
31499971	Other trimmings and findings	N	X	X	199 757	N	X	X	N
3149997111	All other nonapparel, including furniture trimmings (except automobile)	21	X	X	70 637	39	X	X	75 408
3149997121	Bias binding for the apparel trade and notion trade (except fused or sealed edge)	34	X	X	68 221	36	X	X	62 345
3149997131	Ribbons, fused or sealed edge (not woven with fast edges)	27	X	X	60 899	42	X	X	124 602
3149997Y	Other trimmings and findings, nsk	N	X	X	8 859	N	X	X	N
3149997YVV	Other trimmings and findings, nsk	N	X	X	8 859	N	X	X	25 770
3149999	Fabricated textile products, nec	N	X	X	3 224 506	N	X	X	N
31499991	Fabricated automobile seat covers and tire covers	N	X	X	521 433	N	X	X	N
3149999111	Fabricated automobile seat covers and tire covers	36	X	S	521 433	35	X	X	383 062
31499992	Fabricated flags, banners, and similar emblems	N	X	X	272 079	N	X	X	N
3149999231	Fabricated flags, banners, and similar emblems	110	X	X	272 079	142	X	X	284 532
31499993	Fabricated cut and sewn carpet and rugs	N	X	X	206 991	N	X	X	N
3149999371	Fabricated carpet and rugs made from carpeting not made in this plant (cutting, sewing, and binding only)	37	X	X	206 991	30	X	X	252 073
31499994	Fabricated textile products, including sleeping bags, parachutes, industrial shop towels, and carpet tiles	N	X	X	2 021 879	N	X	X	N
3149999421	Fabricated sleeping bags	16	X	S	207 152	16	X	P10 428.5	191 855
3149999441	Fabricated parachutes	17	X	P46.8	58 990	19	X	X	82 552
3149999451	Fabricated industrial shop towels	4	X	S	37 289	7	X	S	37 745
3149999461	Fabricated carpet tiles (tufted and needlepunched) cut from broadloom	9	X	S	439 573	10	X	X	220 530
3149999481	Miscellaneous fabricated products, made primarily of fabric	345	X	X	1 278 875	N	X	X	N
3149999Y	Fabricated textile products, nec, nsk	N	X	X	202 124	N	X	X	N
3149999YVV	Fabricated textile products, nec, nsk	N	X	X	202 124	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
314999	All other miscellaneous textile products—Con.								
314999W	All other miscellaneous textile products, nsk, total	N	X	X	1 024 379	N	X	X	N
314999WY	All other miscellaneous textile products, nsk, total	N	X	X	1 024 379	N	X	X	N
314999WYWW	All other miscellaneous textile products, nsk, for nonadministrative-record establishments	N	X	X	910 887	N	X	X	N
314999WYWY	All other miscellaneous textile products, nsk, for administrative-record establishments	N	X	X	113 492	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3149991	RECOVERED FIBERS, PROCESSED MILL WASTE, AND RELATED PRODUCTS		
	United States	435 897	292 964
	California	9 442	N
	Georgia	12 333	22 087
	Massachusetts	68 338	43 033
	New York	7 971	15 035
	South Carolina	219 198	96 363
	Tennessee	38 071	N
3149993	PADDINGS AND UPHOLSTERY FILLING, BATTING, AND WADDING (EXCEPT FOAM RUBBER AND PLASTICS)		
	United States	607 878	534 982
	Arkansas	7 508	N
	California	74 327	45 403
	Indiana	40 933	22 644
	Massachusetts	26 662	37 905
	Mississippi	41 775	28 095
	New York	20 925	41 435
	North Carolina	118 699	78 335
	South Carolina	17 598	31 567
	Tennessee	18 962	62 517
	Texas	24 022	8 395
3149995	EMBROIDERIES (EXCEPT SCHIFFLI MACHINE PRODUCTS)		
	United States	557 213	414 886
	California	64 941	73 483
	Florida	22 354	12 390
	Georgia	12 590	5 723
	Idaho	2 120	N
	Illinois	25 452	N
	Indiana	34 160	N
	Maryland	4 611	N
	Massachusetts	5 619	N
	Michigan	8 908	N
	Minnesota	8 046	N
	Missouri	19 910	N
	New Jersey	40 401	43 285
	New York	27 520	52 236
	North Carolina	42 137	41 517
	Ohio	32 704	49 216
	Oregon	3 508	N
	Pennsylvania	19 138	14 193
	South Carolina	14 193	N
	Texas	18 781	6 661
	Utah	27 537	N
	Virginia	5 975	N
	Washington	3 410	N
	Wisconsin	20 975	7 439

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3149997	OTHER TRIMMINGS AND FINDINGS		
	United States	208 616	N
	California	9 752	N
	Illinois	2 619	N
	Massachusetts	47 069	N
	New Jersey	46 272	N
	New York	38 071	N
	Ohio	2 255	N
	Pennsylvania	14 744	N
	Texas	5 553	N
3149999	FABRICATED TEXTILE PRODUCTS, NEC		
	United States	3 224 506	N
	Alabama	90 608	N
	Arizona	17 174	N
	California	203 915	N
	Colorado	63 022	N
	Connecticut	22 171	N
	Florida	76 827	N
	Georgia	667 208	N
	Illinois	49 492	N
	Indiana	39 821	N
	Kansas	53 012	N
	Kentucky	330 367	N
	Maine	6 704	N
	Maryland	8 283	N
	Massachusetts	30 343	N
	Michigan	79 832	N
	Minnesota	13 407	N
	Mississippi	31 093	N
	Missouri	37 697	N
	Nebraska	3 983	N
	New Jersey	100 174	N
	New York	100 357	N
	North Carolina	140 287	N
	Ohio	119 019	N
	Oklahoma	31 588	N
	Oregon	6 618	N
	Pennsylvania	79 513	N
	Rhode Island	24 762	N
	South Carolina	212 854	N
	Tennessee	197 477	N
	Texas	173 058	N
	Utah	37 891	N
	Washington	18 027	N
	Wisconsin	28 102	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314999	ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS				
11192001	Raw cotton fibers	1,000 bales..			
00190019	Cotton waste	27.5	5 887	X	N
31122305	Cotton linters (net weight)	S	40 091	X	N
11200000	Raw wool, mohair, and other animal fibers (scoured weight)	S	23 917	X	N
00999823	Wool noils and waste	D	D	X	N
		D	D	X	N
32522105	Rayon and acetate staple and tow	P7.7	6 616	X	N
32522201	Noncellulosic (polyester, nylon, etc.) manmade textile fibers	9391.5	220 679	X	N
31311003	Yarn, all fibers	S	243 547	X	N
31320003	Textile fabrics	X	485 328	X	N
32212003	Paper (cellulosic wadding)	D	D	X	N
32552009	Adhesives and binders (resins)	P33.9	24 080	X	N
32500015	Additives (fire retardants, water repellants, softeners, and antistatics, etc.)	X	11 562	X	N
00999825	New and used rags, clips, etc.	98.8	52 377	X	N
32521139	Vinyl and vinyl copolymer resins, all forms	X	2 399	X	N
32521115	Plastics resins (except vinyl) consumed in the form of granules, pellets, powders, liquids, etc.	S	73 314	X	N
32221001	Paperboard containers, boxes, and corrugated paperboard	X	37 052	X	N
32513003	Dyes, lakes, and toners	X	14 591	X	N
31322103	Narrow fabrics (12 inches or less in width)	S	24 683	X	N
31332001	Plastics coated, impregnated, or laminated fabrics	S	66 307	X	N
31500000	Garments purchased to be printed and resold	X	240 210	X	N

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1997 and 1992—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
314999	ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS— Con.				
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	24 269	X	N
32100019	Rough and dressed lumber	X	D	X	N
00970099	All other materials and components, parts, containers, and supplies	X	1 091 357	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	218 680	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

314999 ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS

This U.S. industry comprises establishments primarily engaged in manufacturing textile products (except carpets and rugs; curtains and linens; textile bags and canvas products; rope, cordage, and twine; and tire cords and tire fabrics) from purchased materials.

The data published with NAICS code 314999 include the following SIC industries:

- 2299 Textile goods, n.e.c. (pt)
- 2395 Pleating and stitching (pt)
- 2396 Automotive and apparel trimmings (pt)
- 2399 Fabricated textile products, n.e.c. (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 314999 include establishments primarily engaged in the manufacture of other miscellaneous textile products from SIC 3999, but do not include establishments primarily engaged in the manufacture of dust rags or textile fire hoses, or engaged in the embroidery of advertising. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3141101.....	22731.....	22731.....	31412974B1 pt.....	2392442 pt.....	2392443.....	3149915.....	22983.....	22983.....
3141101000.....	2273100.....	2273100.....	31412974C1 pt.....	2392444 pt.....	2392446.....	3149915111.....	2298311.....	2298311.....
3141103.....	22732.....	22732.....	31412974D1 pt.....	2392449 pt.....	2392450.....	3149915121.....	2298325.....	2298325.....
3141103110.....	2273220.....	2273220.....	31412974E1.....	2392454.....	2392454.....	3149915131.....	2298398.....	2298398.....
3141103220.....	2273240.....	2273240.....	31412974F1.....	2392463.....	2392463.....	3149915YVW.....	2298300.....	2298300.....
3141103YVW.....	2273200.....	2273200.....	31412974H1.....	2392465.....	2392465.....	314991W.....	22980.....	22980.....
3141105.....	22733.....	22733.....	31412974J1.....	2392469.....	2392469.....	314991WYVW.....	2298000.....	2298000.....
3141105000.....	2273300.....	2273300.....	31412974K1.....	2392499.....	2392499.....	314991WYVY.....	2298002.....	2298002.....
314110W.....	22730.....	22730.....	3141297YVW.....	2392400 pt.....	2392400 pt.....	3149920.....	22960.....	22960.....
314110WYVW.....	2273000.....	2273000.....	314129W.....	23920 pt.....	23920 pt.....	3149920100.....	2296000 pt.....	2296000 pt.....
314110WYVY.....	2273002.....	2273002.....	314129WYVW.....	2392000 pt.....	2392000 pt.....	3149920YVW.....	2296000 pt.....	2296000 pt.....
3141210 pt.....	23910.....	23910.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149920YVY.....	2296002.....	2296002.....
3141210 pt.....	57140.....	57140.....	314129W.....	2392002 pt.....	2392002 pt.....	3149991.....	22994.....	22994.....
3141210111.....	2391010.....	2391010.....	314129WYVW.....	2392002 pt.....	2392002 pt.....	3149991111.....	2299411.....	2299411.....
3141210221.....	2391012.....	2391012.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991121.....	2299413.....	2299413.....
3141210231.....	2391019.....	2391019.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991131.....	2299441.....	2299441.....
3141210241.....	2391023.....	2391023.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149991YVW.....	2299400.....	2299400.....
3141210251.....	2391025.....	2391025.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993.....	22995.....	22995.....
3141210361.....	2391052.....	2391052.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993111.....	2299517.....	2299517.....
3141210371.....	2391059.....	2391059.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993121.....	2299519.....	2299519.....
3141210381.....	2391063.....	2391063.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
3141210391.....	2391062.....	2391062.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993131 pt.....	2299532 pt.....	2299532.....
31412104A1.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993141.....	2299533.....	2299533.....
3141210YVW pt.....	2391000.....	2391000.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993151.....	2299557.....	2299557.....
3141210YVW pt.....	5714000 pt.....	5714000 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149993YVW.....	2299500.....	2299500.....
3141210YVY pt.....	2391002.....	2391002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995.....	23952.....	23952.....
3141210YVY pt.....	5714002.....	5714002.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149995100.....	2395200.....	2395200.....
3141291.....	23921.....	23921.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997.....	23963 pt.....	23963 pt.....
3141291010.....	2392111.....	2392111.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997111.....	2396314.....	2396314.....
3141291020.....	2392114.....	2392114.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997121.....	2396333.....	2396333.....
3141291030.....	2392116.....	2392116.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997131.....	2396345.....	2396345.....
3141291040.....	2392120.....	2392120.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149997YVW.....	2396300.....	2396300.....
3141291050.....	2392121.....	2392121.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	23990 pt.....	23990 pt.....
3141291060.....	2392113.....	2392113.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999 pt.....	39999 pt.....	39999 pt.....
3141291070.....	2392115.....	2392115.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999111.....	2399015.....	2399015.....
3141291YVW.....	2392100.....	2392100.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999231.....	2399041.....	2399041.....
3141293.....	23922.....	23922.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999371.....	2399097.....	2399097.....
3141293000.....	2392200.....	2392200.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999421.....	2399031.....	2399031.....
3141295.....	23923.....	23923.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999441.....	2399085.....	2399085.....
3141295010.....	2392310.....	2392310.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999451.....	2399093.....	2399093.....
3141295020.....	2392313.....	2392313.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999461.....	2399095.....	2399095.....
3141295YVW.....	2392300.....	2392300.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	2399099.....	2399099 pt.....
3141297.....	23924 pt.....	23924 pt.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	3999995 pt.....	3999995 pt.....
3141297101.....	2392409.....	2392409.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999481 pt.....	3999995 pt.....	3999995 pt.....
3141297210.....	2392412.....	2392412.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399000 pt.....	2399000 pt.....
3141297220.....	2392414.....	2392414.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2399002 pt.....	2399002 pt.....
3141297230.....	2392416.....	2392416.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	3999900 pt.....	3999900 pt.....
31412973J1.....	2392455.....	2392455.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412973K1.....	2392456.....	2392456.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412973L1.....	2392457.....	2392457.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412973M1.....	2392459.....	2392459.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
3141297440.....	2392494.....	2392494.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
3141297451.....	2392433.....	2392433.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
3141297461.....	2392435.....	2392435.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
3141297471.....	2392436.....	2392436.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
3141297481.....	2392437.....	2392437.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412974A1 pt.....	2392439 pt.....	2392438.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412974A1 pt.....	2392439 pt.....	2392440.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....
31412974B1 pt.....	2392442 pt.....	2392441.....	314129WYVY.....	2392002 pt.....	2392002 pt.....	3149999YVW pt.....	2299002 pt.....	2299002 pt.....

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1997 Economic Census

Manufacturing

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315111	Sheer hosiery mills	135	153	17 579	340 090	15 690	31 165	270 937	750 213	817 542	1 582 474	34 759
225100	Women's hosiery, except socks	N	137	16 962	327 514	15 150	30 242	262 140	729 635	795 628	1 541 302	33 769
225210	Hosiery, n.e.c. (pt)	N	16	617	12 576	540	923	8 797	20 578	21 914	41 172	990

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315111, SHEER HOSIERY MILLS												
United States	-	153	76	17 579	340 090	15 690	31 165	270 937	750 213	817 542	1 582 474	34 759
Alabama	-	9	3	419	7 614	391	734	6 399	7 243	7 661	16 184	946
California	8	8	1	118	1 526	106	176	1 281	2 774	3 004	5 727	190
North Carolina	-	86	53	12 538	240 559	11 329	21 952	190 865	455 976	517 816	982 906	23 535

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315111, SHEER HOSIERY MILLS		315111, SHEER HOSIERY MILLS—Con.	
Companies ¹	number.. 135	Value added	\$1,000.. 750 213
All establishments	number.. 153	Total inventories, beginning of year	\$1,000.. 257 525
Establishments with 1 to 19 employees	number.. 77	Finished goods inventories, beginning of year	\$1,000.. 102 753
Establishments with 20 to 99 employees	number.. 33	Work-in-process inventories, beginning of year	\$1,000.. 106 625
Establishments with 100 employees or more	number.. 43	Materials and supplies inventories, beginning of year	\$1,000.. 48 147
All employees	number.. 17 579	Total inventories, end of year	\$1,000.. 243 318
Total compensation ²	\$1,000.. 414 978	Finished goods inventories, end of year	\$1,000.. 101 597
Annual payroll	\$1,000.. 340 090	Work-in-process inventories, end of year	\$1,000.. 93 062
Total fringe benefits	\$1,000.. 74 888	Materials and supplies inventories, end of year	\$1,000.. 48 659
Production workers, average for year	number.. 15 690	Gross book value of total assets at beginning of year	\$1,000.. 408 351
Production workers on March 12	number.. 16 604	Total capital expenditures (new and used)	\$1,000.. 34 759
Production workers on May 12	number.. 15 637	Capital expenditures for buildings and other structures	
Production workers on August 12	number.. 15 385	(new and used)	\$1,000.. 3 623
Production workers on November 12	number.. 15 134	Capital expenditures for machinery and equipment (new	
Production-worker hours	1,000.. 31 165	and used)	\$1,000.. 31 136
Production-worker wages	\$1,000.. 270 937	Total retirements ²	\$1,000.. 13 526
Total cost of materials	\$1,000.. 817 542	Gross book value of total assets at end of year	\$1,000.. 429 584
Cost of materials, parts, containers, etc., consumed	\$1,000.. 743 099	Total depreciation during year ²	\$1,000.. 28 298
Cost of resales	\$1,000.. 27 193	Total rental payments ²	\$1,000.. 6 294
Cost of fuels	\$1,000.. 7 216	Buildings and other structures rental payments ²	\$1,000.. 2 749
Cost of purchased electricity	\$1,000.. 25 902	Machinery and equipment rental payments ²	\$1,000.. 3 545
Cost of contract work	\$1,000.. 14 132	Cost of purchased services for the repair of buildings and other	
Quantity of electricity purchased for heat and power	1,000 kWh.. 462 798	structures ³	\$1,000.. 1 787
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Response coverage ratio ⁴	percent.. 94
Total value of shipments	\$1,000.. 1 582 474	Cost of purchased services for the repair of machinery and	
Primary products value of shipments	\$1,000.. 1 512 906	equipment ³	\$1,000.. 9 689
Secondary products value of shipments	\$1,000.. 37 075	Response coverage ratio ⁴	percent.. 94
Total miscellaneous receipts	\$1,000.. 32 493	Cost of purchased communications services ³	\$1,000.. 1 994
Value of resales	\$1,000.. 29 272	Response coverage ratio ⁴	percent.. 94
Contract receipts	\$1,000.. D	Cost of purchased legal services ³	\$1,000.. 368
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 94
Primary products specialization ratio	percent.. 97	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 287
Value of primary products shipments made in all industries	\$1,000.. 1 552 097	Response coverage ratio ⁴	percent.. 94
Value of primary products shipments made in this industry	\$1,000.. 1 512 906	Cost of purchased advertising services ³	\$1,000.. 1 335
Value of primary products shipments made in other		Response coverage ratio ⁴	percent.. 94
industries	\$1,000.. 39 191	Cost of purchased software and other data processing	
Coverage ratio	percent.. 97	services ³	\$1,000.. 921
		Response coverage ratio ⁴	percent.. 94
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$1,000.. 797
		Response coverage ratio ⁴	percent.. 94

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315111, SHEER HOSIERY MILLS												
All establishments	-	153	76	17 579	340 090	15 690	31 165	270 937	750 213	817 542	1 582 474	34 759
Establishments with 1 to 4 employees	9	31	-	67	1 303	67	134	1 152	2 518	2 542	5 070	168
Establishments with 5 to 9 employees	7	19	-	129	2 397	123	234	2 138	4 232	5 583	9 833	365
Establishments with 10 to 19 employees	3	27	-	398	5 369	344	608	4 449	14 096	33 050	45 921	511
Establishments with 20 to 49 employees	3	22	22	690	10 048	567	1 069	8 191	23 132	21 001	44 141	2 380
Establishments with 50 to 99 employees	3	11	11	766	16 980	594	1 171	11 130	23 058	42 662	64 724	2 694
Establishments with 100 to 249 employees	-	18	18	3 055	58 798	2 788	5 064	47 613	126 961	165 002	289 764	6 016
Establishments with 250 to 499 employees	-	15	15	5 665	105 395	5 106	9 890	85 148	282 778	277 404	564 507	12 164
Establishments with 500 to 999 employees	-	9	9	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	69	-	623	8 081	585	1 052	7 077	15 496	16 378	31 840	1 044

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315111	Sheer hosiery mills	153	17 579	340 090	15 690	31 165	270 937	750 213	817 542	1 582 474	34 759
3151111	Women's, misses', and girls' finished hosiery, sheer, full-length, knee-length, and below the knee	22	2 767	55 798	2 429	4 983	45 026	111 999	108 564	216 353	6 208
3151113	Women's, misses', and girls' finished pantyhose, sheer, including tights, all needle	38	12 568	250 345	11 228	22 305	196 633	590 326	603 911	1 213 314	22 659
3151115	Sheer hosiery (except socks) shipped in the greige	9	1 009	17 097	929	1 801	14 887	17 000	74 047	90 716	3 203

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315111	Sheer hosiery	N	X	X	1 552 097	N	X	X	N
3151111	Women's, misses', and girls' finished hosiery, sheer, full-length, knee-length, and below the knee	N	X	X	271 187	N	X	X	N
315111111	Women's, misses', and girls' finished hosiery, sheer, full-length, knee-length, and below the knee	N	X	X	256 287	N	X	X	N
31511111111	Women's, misses', and girls' finished hosiery, sheer, knee-length, stretch and nonstretch	29	X	P26.1	175 804	28	X	33.6	144 454
3151111121	Women's, misses', and girls' finished hosiery, sheer, below the knee, including foot socks, anklets, and midcalf-crew	10	X	S	36 600	23	X	11.2	57 132
3151111131	Women's, misses', and girls' finished hosiery, sheer, full-length, stretch	6	X	S	6 499	12	X	4.1	23 898
3151111141	Women's, misses', and girls' finished hosiery, sheer, full-length, support	7	X	P1.3	18 920	5	X	1.5	12 577
3151111191	Women's, misses', and girls' finished hosiery, sheer, all other full-length	5	X	1.2	18 464	N	X	X	N
3151111Y	Women's, misses', and girls' finished hosiery, sheer, full-length, knee-length, and below the knee, nsk	N	X	X	14 900	N	X	X	N
3151111YWV	Women's, misses', and girls' finished hosiery, sheer, full-length, knee-length, and below the knee, nsk	N	X	X	14 900	N	X	X	N
3151113	Women's, misses', and girls' finished pantyhose, sheer, including tights, all needle	N	X	X	1 129 065	N	X	X	1 394 226
31511131	Women's, misses', and girls' finished pantyhose, sheer, including tights, less than 30 denier, sheer stretch	N	X	X	571 867	N	X	X	N
3151113111	Women's, misses', and girls' finished pantyhose, sheer, including tights, less than 30 denier, sheer stretch	21	X	43.4	571 867	37	X	63.3	644 851
31511132	Women's, misses', and girls' finished pantyhose, sheer, including tights, elastomer, control top, no leg support, and opaque stretch, 30 denier or heavier	N	X	X	344 107	N	X	X	N
3151113221	Women's, misses', and girls' finished pantyhose, sheer, including tights, 30 denier or heavier, opaque stretch	22	X	P13.4	237 139	27	X	30.2	259 330
3151113231	Women's, misses', and girls' finished pantyhose, sheer, including tights, elastomer, control top, no leg support	13	X	P4.9	106 968	17	X	15.6	179 685
31511133	Other women's, misses', and girls' finished pantyhose, sheer, including tights, miscellaneous sheers	N	X	X	213 091	N	X	X	N
3151113341	Women's, misses', and girls' finished pantyhose, sheer, including tights, elastomer, leg support, under 35 denier	13	X	9.0	156 726	13	X	9.7	132 325
3151113351	Women's, misses', and girls' finished pantyhose, sheer, including tights, elastomer, leg support, 35 denier or heavier	12	X	1.7	37 971	14	X	8.7	120 056
3151113391	Women's, misses', and girls' finished pantyhose, sheer, including tights, miscellaneous sheers, including stockings, fancies, sewed on legs, waist connected legs, replacable legs, nonstretch, etc.	5	X	1.7	18 394	8	X	94.1	57 979
3151113Y	Women's, misses', and girls' finished pantyhose, sheer, including tights, all needle, nsk	N	X	X	-	N	X	X	N
3151113YWV	Women's, misses', and girls' finished pantyhose, sheer, including tights, all needle, nsk	N	X	X	-	N	X	X	-
3151115	Sheer hosiery (except socks) shipped in the greige	N	X	X	91 169	N	X	X	84 628
31511151	Sheer hosiery (except socks) shipped in the greige	N	X	X	91 169	N	X	X	N
3151115121	Sheer hosiery, shipped in the greige, full-fashioned and seamless, full-length and knee-length (except pantyhose and socks)	7	X	S	27 988	13	X	P7.7	21 537
3151115131	Sheer pantyhose, shipped in the greige	6	X	X	63 181	12	X	9.2	63 091
3151115Y	Sheer hosiery (except socks) shipped in the greige, nsk	N	X	X	-	N	X	X	N
3151115YWV	Sheer hosiery (except socks) shipped in the greige, nsk	N	X	X	-	N	X	X	-

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315111	Sheer hosiery—Con.								
315111W	Sheer hosiery, nsk, total	N	X	X	60 676	N	X	X	N
315111WY	Sheer hosiery, nsk, total	N	X	X	60 676	N	X	X	N
315111WYWW	Sheer hosiery, nsk, for nonadministrative-record establishments	N	X	X	28 847	N	X	X	N
315111WYWY	Sheer hosiery, nsk, for administrative-record establishments	N	X	X	31 829	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
		3151111	WOMEN'S, MISSES', AND GIRLS' FINISHED HOSIERY, SHEER, FULL-LENGTH, KNEE-LENGTH, AND BELOW THE KNEE
	United States	271 187	N
	Alabama	8 732	N
	North Carolina	161 157	N
	South Carolina	18 772	N
3151113	WOMEN'S, MISSES', AND GIRLS' FINISHED PANTYHOSE, SHEER, INCLUDING TIGHTS, ALL NEEDLE		
	United States	1 129 065	1 394 226
	North Carolina	667 559	819 245
	South Carolina	225 192	N
3151115	SHEER HOSIERY (EXCEPT SOCKS) SHIPPED IN THE GREIGE		
	United States	91 169	84 628
	North Carolina	91 086	57 801

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315111	SHEER HOSIERY MILLS				
31511101	Hosiery shipped in the greige, except pantyhose	X	28 584	X	N
31511103	Pantyhose shipped in the greige	X	120 070	X	N
31311103	Cotton yarns	X	27 113	X	N
31311111	Spun nylon yarn	X	218 460	X	N
31311115	Acrylic yarns	X	2 014	X	N
32522211	Nylon filament yarns	X	112 781	X	N
32522229	Spandex filament yarns	X	82 800	X	N
31311001	All other yarns	X	6 345	X	N
00190003	Flexible packaging materials	X	34 823	X	N
32221001	Paperboard containers, boxes, and corrugated paperboard	X	40 577	X	N
00970099	All other materials and components, parts, containers, and supplies	X	28 738	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	40 794	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315111 SHEER HOSIERY MILLS

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing women's, misses', and girls' full-length and knee-length sheer hosiery (except socks).

The data published with NAICS code 315111 include the following SIC industries:

2251 Women's hosiery, except socks
2252 Hosiery, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113YVV	2251600	2251600	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
			3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt			
31511933B1	2252588	2252588						
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H	23959 pt	23958 pt
			315211H100 pt	2395900 pt	2395800 pt	315212H100 pt	2395900 pt	2395800 pt
			315211H100 pt	2395993	2395811	315212H100 pt	2395994	2395833
3151195	22526	22526	315211W pt.....	23110 pt	23110 pt	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W100 pt	2311000	2311000 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
			315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119W	22520 pt	22520 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
			315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911	22534	22534	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
3151911100	2253400	2253400	315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
			315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23420 pt	23420 pt
3151913100	2253500	2253500				315212W pt.....	23610 pt	23610 pt
			315211W pt.....	23410 pt	23410 pt	315212W pt.....	23619 pt	23619 pt
3151915	22536	22536	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23690 pt	23690 pt
3151915100	2253600	2253600	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23699 pt	23699 pt
			315211W pt.....	23410 pt	23410 pt	315212W pt.....	23840 pt	23840 pt
3151917	2253A	2253A	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23850 pt	23850 pt
3151917100	2253A00	2253A00	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
			315211W pt.....	23410 pt	23410 pt			
3151919	2253B	2253B	315211W pt.....	23410 pt	23410 pt			
3151919100	2253B00	2253B00	315211W pt.....	23410 pt	23410 pt			
			315211W pt.....	23410 pt	23410 pt			
315191A	2253C	2253C	315211W pt.....	23410 pt	23410 pt			
315191A100	2253C00	2253C00	315211W pt.....	23410 pt	23410 pt			
			315211W pt.....	23410 pt	23410 pt			
315191C	2253D	2253D	315211W pt.....	23410 pt	23410 pt			
315191C110	2253D01	2253D01	315211W pt.....	23410 pt	23410 pt			
315191C120	2253D05	2253D05	315211W pt.....	23410 pt	23410 pt			
315191C130	2253D09	2253D09	315211W pt.....	23410 pt	23410 pt			
315191CYVV	2253D00	2253D00	315211W pt.....	23410 pt	23410 pt			
			315211W pt.....	23410 pt	23410 pt			
315191E	2253E	2253E	315211W pt.....	23410 pt	23410 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	23950 pt	23950 pt	315212W pt.....	23950 pt	23950 pt
315191EYVV	2253E02	2253E02	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	2395000 pt	2395000 pt
315191G	22590 pt	22590 pt	315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	2395000 pt	2395000 pt
315191G100	2259020	2259020	315211WYWW pt...	2325000 pt	2325000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	2395000 pt	2395000 pt
315191W pt.....	22530	22530	315211WYWW pt...	2329000 pt	2329000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2395000 pt	2395000 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369393 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369370 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23370 pt.	23370 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23690 pt.	23690 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23690 pt.	23690 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23840 pt.	23840 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2341303 pt.	2341300 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2322200 pt.	2322200 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
315222 pt.	23115 pt.	23115 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
315222 pt.	23692 pt.	23692 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	23693 pt.	23693 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	315239710 pt.	2339760 pt.	2339760 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152225 pt.	23117 pt.	23117 pt.	3152317YV pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152319 pt.	23693 pt.	23693 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319 pt.	23840 pt.	23840 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	2369381 pt.	2369380 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23690 pt.	23690 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	3152910 pt.	23410 pt.	23410 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2384000 pt.	2384000 pt.			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3152910 pt.....	23693 pt.....	23693 pt	315299W pt.....	23390 pt.....	23390 pt	3159995.....	23871.....	23871
3152910 pt.....	23850 pt.....	23850 pt	315299W pt.....	23890 pt.....	23890 pt	3159995111.....	2387113.....	2387113
3152910 pt.....	23851 pt.....	23851 pt	315299WYWW pt...	2329000 pt.....	2329000 pt	3159995121.....	2387115.....	2387115
3152910110.....	2341204.....	2341200 pt	315299WYWW pt...	2339000 pt.....	2339000 pt	3159995131.....	2387153.....	2387153
3152910120.....	2341304.....	2341300 pt	315299WYWW pt...	2389000 pt.....	2389000 pt	3159995141.....	2387155.....	2387155
3152910230.....	2361303.....	2361300 pt	315299WYWW pt...	2329002 pt.....	2329002 pt	3159995YVW.....	2387100.....	2387100
3152910240.....	2361403.....	2361400 pt	315299WYWW pt...	2339002 pt.....	2339002 pt	3159997.....	23872.....	23872
3152910250.....	2361502.....	2361500 pt	315299WYWW pt...	2389002 pt.....	2389002 pt	3159997111.....	2387213.....	2387213
3152910260.....	2369203.....	2369200 pt	3159911.....	23531.....	23531	3159997121.....	2387215.....	2387215
3152910270.....	2369343.....	2369340 pt	3159911111.....	2353101.....	2353101	3159997131.....	2387253.....	2387253
31529102A0.....	2369373.....	2369370 pt	3159911121.....	2353103.....	2353103	3159997141.....	2387255.....	2387255
31529102C0 pt.....	2369396.....	2369393 pt	3159911131.....	2353105.....	2353105	3159997YVW.....	2387200.....	2387200
31529102C0 pt.....	2385171.....	2385171	3159911141.....	2353109.....	2353109	315999A.....	23890 pt.....	23890 pt
3152910YVW pt...	2341000 pt.....	2341000 pt	3159911YVW.....	2353100.....	2353100	315999A111.....	2389045.....	2389031 pt
3152910YVW pt...	2341200 pt.....	2341200 pt	3159913.....	23532.....	23532	315999A221.....	2389053.....	2389053
3152910YVW pt...	2341300 pt.....	2341300 pt	3159913111.....	2353201.....	2353201	315999A231.....	2389057.....	2389057
3152910YVW pt...	2361000 pt.....	2361000 pt	3159913121.....	2353203.....	2353203	315999AYVW.....	2389000 pt.....	2389000 pt
3152910YVW pt...	2361300 pt.....	2361300 pt	3159913131.....	2353205.....	2353205	315999C pt.....	23961.....	23961
3152910YVW pt...	2361400 pt.....	2361400 pt	3159913141.....	2353209.....	2353209	315999C111 pt....	2396111.....	2396111
3152910YVW pt...	2361500 pt.....	2361500 pt	3159913YVW.....	2353200.....	2353200	315999C111 pt....	2399091.....	2399098 pt
3152910YVW pt...	2369000 pt.....	2369000 pt	3159915.....	23533.....	23533	315999C121.....	2396153.....	2396153
3152910YVW pt...	2369200 pt.....	2369200 pt	3159915111.....	2353301.....	2353301	315999CVVW pt....	2396100.....	2396100
3152910YVW pt...	2369300 pt.....	2369300 pt	3159915121.....	2353303.....	2353303	315999CVVW pt....	2399000 pt.....	2399000 pt
3152910YVW pt...	2385000 pt.....	2385000 pt	3159915131.....	2353309.....	2353309	315999E.....	23963 pt.....	23963 pt
3152910YVW pt...	2385100 pt.....	2385100 pt	3159915YVW.....	2353300.....	2353300	315999E100.....	2396313.....	2396311
3152910YVW pt...	2341002 pt.....	2341002 pt	315991W.....	23530.....	23530	315999G.....	56990 pt.....	56990 pt
3152910YVW pt...	2361002 pt.....	2361002 pt	315991WYWW.....	2353000.....	2353000	315999G100 pt....	5699010.....	5699000 pt
3152910YVW pt...	2369002 pt.....	2369002 pt	315991WYVW.....	2353002.....	2353002	315999G100 pt....	5699020.....	5699000 pt
3152910YVW pt...	2385002 pt.....	2385002 pt	3159921.....	23813.....	23813	315999W pt.....	23390 pt.....	23390 pt
3152921.....	23710 pt.....	23710 pt	3159921000.....	2381300.....	2381300	315999W pt.....	23850 pt.....	23850 pt
3152921100.....	2371000 pt.....	2371000 pt	3159923.....	23814.....	23814	315999W pt.....	23870.....	23870
3152925.....	23860 pt.....	23860 pt	3159923000.....	2381400.....	2381400	315999W pt.....	23890 pt.....	23890 pt
3152925111.....	2386015.....	2386015	3159925.....	31510 pt.....	31510 pt	315999W pt.....	23960 pt.....	23960 pt
3152925221.....	2386053.....	2386053	3159925000.....	3151000 pt.....	3151000 pt	315999W pt.....	23990 pt.....	23990 pt
3152925231.....	2386098.....	2386098	315992W pt.....	23810.....	23810	315999W pt.....	23990 pt.....	23990 pt
3152925YVW.....	2386000 pt.....	2386000 pt	315992W pt.....	23810.....	23810	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23710 pt.....	23710 pt	315992W pt.....	31510 pt.....	31510 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	23990 pt.....	23990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	3151000 pt.....	3151000 pt	315999WYVW pt....	56990 pt.....	56990 pt
315292WYVW pt...	2386000 pt.....	2386000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt....	2339000 pt.....	2339000 pt
315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	3151002.....	3151002	315999WYVW pt....	2385000 pt.....	2385000 pt
315292WYVW pt...	2386002.....	2386002	3159930.....	23230.....	23230	315999WYVW pt....	2387000.....	2387000
3152991.....	23293 pt.....	23293 pt	3159930111.....	2323021.....	2323021	315999WYVW pt....	2389000 pt.....	2389000 pt
3152991100.....	2329330.....	2329330	3159930121.....	2323027.....	2323027	315999WYVW pt....	2396000 pt.....	2396000 pt
3152993.....	23397 pt.....	23397 pt	3159930231.....	2323028.....	2323028	315999WYVW pt....	2399000 pt.....	2399000 pt
3152993100.....	2339720.....	2339720	3159930241.....	2323049.....	2323049	315999WYVW pt....	5699000.....	5699000 pt
3152995.....	23890 pt.....	23890 pt	3159930YVW.....	2323000.....	2323000	315999WYVW pt....	2339002 pt.....	2339002 pt
3152995111.....	2389081.....	2389081	3159930YVW.....	2323002.....	2323002	315999WYVW pt....	2385002 pt.....	2385002 pt
3152995121.....	2389091.....	2389091	3159991.....	23397 pt.....	23397 pt	315999WYVW pt....	2387002.....	2387002
3152995131.....	2389098.....	2389098	3159991100.....	2339770.....	2339770	315999WYVW pt....	2389002 pt.....	2389002 pt
3152995YVW.....	2389000 pt.....	2389000 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt....	2396002 pt.....	2396002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993100.....	2385190.....	2385198 pt	315999WYVW pt....	2399002 pt.....	2399002 pt
						315999WYVW pt....	5699002.....	5699000 pt

Other Hosiery and Sock Mills

1997

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1997 Economic Census

Manufacturing

Industry Series



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Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Compan-ies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315119	Other hosiery & sock mills	401	439	35 647	655 744	31 628	60 645	513 201	1 466 612	1 565 739	3 021 223	96 440
225220	Hosiery, n.e.c. (pt)	N	439	35 647	655 744	31 628	60 645	513 201	1 466 612	1 565 739	3 021 223	96 440

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315119, OTHER HOSIERY & SOCK MILLS												
United States	1	439	254	35 647	655 744	31 628	60 645	513 201	1 466 612	1 565 739	3 021 223	96 440
Alabama	2	132	70	6 917	110 749	6 130	10 638	85 449	223 730	350 048	574 900	25 092
California	-	9	3	419	5 636	334	563	3 912	26 810	47 819	73 650	1 409
North Carolina	1	208	135	18 661	355 369	16 578	32 434	278 151	789 734	757 601	1 532 327	41 085
Pennsylvania	-	7	3	567	12 556	508	999	10 599	64 272	27 498	91 064	2 146

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315119, OTHER HOSIERY & SOCK MILLS		315119, OTHER HOSIERY & SOCK MILLS—Con.	
Companies ¹	number.. 401	Value added	\$1,000.. 1 466 612
All establishments	number.. 439	Total inventories, beginning of year	\$1,000.. 344 464
Establishments with 1 to 19 employees	number.. 185	Finished goods inventories, beginning of year	\$1,000.. 153 970
Establishments with 20 to 99 employees	number.. 160	Work-in-process inventories, beginning of year	\$1,000.. 103 487
Establishments with 100 employees or more	number.. 94	Materials and supplies inventories, beginning of year	\$1,000.. 87 007
All employees	number.. 35 647	Total inventories, end of year	\$1,000.. 359 225
Total compensation ²	\$1,000.. 786 196	Finished goods inventories, end of year	\$1,000.. 167 286
Annual payroll	\$1,000.. 655 744	Work-in-process inventories, end of year	\$1,000.. 101 299
Total fringe benefits	\$1,000.. 130 452	Materials and supplies inventories, end of year	\$1,000.. 90 640
Production workers, average for year	number.. 31 628	Gross book value of total assets at beginning of year	\$1,000.. 912 726
Production workers on March 12	number.. 31 636	Total capital expenditures (new and used)	\$1,000.. 96 440
Production workers on May 12	number.. 31 758	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 16 741
Production workers on August 12	number.. 32 055	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 79 699
Production workers on November 12	number.. 31 063	Total retirements ²	\$1,000.. 18 986
Production-worker hours	1,000.. 60 645	Gross book value of total assets at end of year	\$1,000.. 990 180
Production-worker wages	\$1,000.. 513 201	Total depreciation during year ²	\$1,000.. 76 278
Total cost of materials	\$1,000.. 1 565 739	Total rental payments ²	\$1,000.. 25 732
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 298 536	Buildings and other structures rental payments ²	\$1,000.. 11 401
Cost of resales	\$1,000.. 159 495	Machinery and equipment rental payments ²	\$1,000.. 14 331
Cost of fuels	\$1,000.. 16 280	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 3 744
Cost of purchased electricity	\$1,000.. 37 738	Response coverage ratio ⁴	percent.. 91
Cost of contract work	\$1,000.. 53 690	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 13 445
Quantity of electricity purchased for heat and power	1,000 kWh.. 717 181	Response coverage ratio ⁴	percent.. 91
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 4 931
Total value of shipments	\$1,000.. 3 021 223	Response coverage ratio ⁴	percent.. 91
Primary products value of shipments	\$1,000.. 2 795 231	Cost of purchased legal services ³	\$1,000.. 2 218
Secondary products value of shipments	\$1,000.. 38 629	Response coverage ratio ⁴	percent.. 91
Total miscellaneous receipts	\$1,000.. 187 363	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 479
Value of resales	\$1,000.. 177 535	Response coverage ratio ⁴	percent.. 91
Contract receipts	\$1,000.. 7 382	Cost of purchased advertising services ³	\$1,000.. 3 757
Other miscellaneous receipts	\$1,000.. 2 446	Response coverage ratio ⁴	percent.. 91
Primary products specialization ratio	percent.. 98	Cost of purchased software and other data processing services ³	\$1,000.. 1 839
Value of primary products shipments made in all industries	\$1,000.. 2 839 036	Response coverage ratio ⁴	percent.. 91
Value of primary products shipments made in this industry	\$1,000.. 2 795 231	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 494
Value of primary products shipments made in other industries	\$1,000.. 43 805	Response coverage ratio ⁴	percent.. 91
Coverage ratio	percent.. 98		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315119, OTHER HOSIERY & SOCK MILLS												
All establishments	1	439	254	35 647	655 744	31 628	60 645	513 201	1 466 612	1 565 739	3 021 223	96 440
Establishments with 1 to 4 employees	9	72	—	134	2 444	126	233	1 896	3 878	4 531	8 534	282
Establishments with 5 to 9 employees	7	42	—	282	4 221	238	382	2 914	7 363	9 102	18 225	462
Establishments with 10 to 19 employees	7	71	—	1 052	16 280	901	1 472	12 059	26 456	35 095	61 542	3 096
Establishments with 20 to 49 employees	1	109	109	3 578	56 340	2 893	5 042	39 325	88 428	131 338	219 857	8 593
Establishments with 50 to 99 employees	1	51	51	3 571	60 305	3 068	5 347	43 980	117 483	152 475	269 404	8 177
Establishments with 100 to 249 employees	1	53	53	8 037	143 973	7 013	13 228	108 243	348 639	379 975	722 365	21 003
Establishments with 250 to 499 employees	—	30	30	10 248	209 617	9 106	18 347	164 547	503 201	522 242	1 019 403	28 076
Establishments with 500 to 999 employees	1	9	9	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	133	—	1 161	15 323	1 054	1 544	12 181	25 673	30 885	56 564	1 927

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315119	Other hosiery & sock mills	439	35 647	655 744	31 628	60 645	513 201	1 466 612	1 565 739	3 021 223	96 440
3151191	Men's finished seamless hosiery and socks (sizes 10 and up)	118	17 527	343 518	15 612	29 888	264 109	757 149	890 838	1 666 903	53 061
3151193	All other finished hosiery, other than sheer	69	11 797	212 612	10 576	21 028	171 637	485 454	416 851	888 917	28 345
3151195	Seamless hosiery shipped in the greige	53	2 788	48 690	2 291	4 449	36 235	115 026	118 608	217 224	8 158

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315119	Other hosiery and socks	N	X	X	2 839 036	N	X	X	N
3151191	Men's finished seamless hosiery and socks, sizes 10 and up	N	X	X	1 424 808	N	X	X	1 134 698
31511911	Men's finished seamless hosiery and socks, sizes 10 and up, anklets, including slack socks, crew socks, and athletic socks, natural fibers, cotton and-or wool, etc.	N	X	X	742 144	N	X	X	N
3151191111	Men's finished seamless hosiery and socks, sizes 10 and up, anklets, including slack socks, crew socks, and athletic socks, natural fibers, cotton and-or wool, etc. mil doz pairs..	102	X	94.3	742 144	97	X	62.8	460 815
31511912	Men's finished seamless hosiery and socks, sizes 10 and up, anklets, including slack socks, crew socks, and athletic socks, manmade fibers	N	X	X	160 553	N	X	X	N
3151191221	Men's finished seamless hosiery and socks, sizes 10 and up, anklets, including slack socks, crew socks, and athletic socks, manmade fibers mil doz pairs..	38	X	12.2	160 553	60	X	24.7	218 122
31511913	Men's finished seamless hosiery and socks, sizes 10 and up, midcalf, including half hose, natural fibers, cotton and-or wool, etc.	N	X	X	220 088	N	X	X	N
3151191331	Men's finished seamless hosiery and socks, sizes 10 and up, midcalf, including half hose, natural fibers, cotton and-or wool, etc. mil doz pairs..	29	X	S	220 088	38	X	59.3	226 973
31511914	Men's finished seamless hosiery and socks, sizes 10 and up, midcalf, including half hose, manmade fibers	N	X	X	73 100	N	X	X	N
3151191441	Men's finished seamless hosiery and socks, sizes 10 and up, midcalf, including half hose, manmade fibers mil doz pairs..	11	X	S	73 100	29	X	9.0	97 933
31511915	All other men's finished seamless hosiery and socks, sizes 10 and up, including foot socks	N	X	X	219 568	N	X	X	N
3151191551	Men's finished seamless hosiery and socks, sizes 10 and up, knee, including bermuda and campus, natural fibers, cotton and-or wool, etc. mil doz pairs..	14	X	S	52 181	16	X	5.4	45 469
3151191561	Men's finished seamless hosiery and socks, sizes 10 and up, knee, including bermuda and campus, manmade fibers mil doz pairs..	10	X	6.5	55 663	20	X	7.2	60 518
3151191591	Men's finished seamless hosiery and socks, sizes 10 and up, all other, including foot socks mil doz pairs..	16	X	S	111 724	14	X	D	D
3151191Y	Men's finished seamless hosiery and socks, sizes 10 and up, nsk	N	X	X	9 355	N	X	X	N
3151191YWV	Men's finished seamless hosiery and socks, sizes 10 and up, nsk	N	X	X	9 355	N	X	X	D
3151193	All other finished hosiery, other than sheer	N	X	X	1 034 365	N	X	X	N
31511931	Women's, misses', girls', and boys', sizes 8-11, knee highs and finished anklets (except sheer), including slack, crew, and athletic socks, all fibers	N	X	X	608 287	N	X	X	N
3151193111	Women's, misses', girls', and boys', sizes 8-11, finished knee-length socks, including bermuda and campus, all fibers	10	X	X	36 106	14	X	1.8	16 398
3151193121	Women's, misses', girls', and boys', sizes 8-11, finished anklets (except sheer), including slack, crew, and athletic socks, natural fibers, cotton and-or wool, etc.	73	X	X	497 060	80	X	72.8	527 993
3151193131	Women's, misses', girls', and boys', sizes 8-11, finished anklets (except sheer), including slack, crew, and athletic socks, manmade fibers	28	X	X	75 121	31	X	7.1	69 780
31511932	Girls' and boys' all other finished hosiery (except anklets), including foot socks, and waist-highs, all fibers	N	X	X	181 153	N	X	X	N
3151193241	Girls' and boys' finished knee-length hosiery (except anklets), including bermuda and campus, natural fibers, cotton and-or wool, etc.	18	X	X	58 264	19	X	6.5	46 241
3151193251	Girls' and boys' finished knee-length hosiery (except anklets), including bermuda and campus, manmade fibers	12	X	X	43 978	17	X	4.8	35 084
3151193261	Girls' and boys' all other finished hosiery (except anklets), including foot socks and waist-highs	14	X	X	78 911	12	X	S	22 571

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315119	Other hosiery and socks—Con.								
3151193	All other finished hosiery, other than sheer—Con.								
31511933	Infants' and children's, sizes 3-8.5, finished hosiery, including foot socks and waist highs, all fibers	N	X	X	241 468	N	X	X	N
3151193371	Infants' and children's, sizes 3-8.5, finished anklets, including slack socks, crew socks, and athletic socks, natural fibers, cotton and/or wool, etc.	38	X	X	207 426	32	X	P27.9	167 917
3151193381	Infants' and children's, sizes 3-8.5, finished anklets, including slack socks, crew socks, and athletic socks, manmade fibers	7	X	X	8 994	20	X	4.6	29 608
3151193391	Infants' and children's, sizes 3-8.5, finished knee-length hosiery, including bermuda and campus	5	X	X	8 345	10	X	0.8	5 868
31511933B1	Infants' and children's, sizes 3-8.5, other finished hosiery, including foot socks and waist-highs	7	X	X	16 703	9	X	S	12 868
3151193Y	All other finished hosiery, other than sheer, nsk	N	X	X	3 457	N	X	X	N
3151193YWV	All other finished hosiery, other than sheer, nsk	N	X	X	3 457	N	X	X	N
3151195	Seamless hosiery shipped in the greige	N	X	X	225 137	N	X	X	229 472
31511951	Seamless hosiery shipped in the greige	N	X	X	218 504	N	X	X	N
3151195111	Seamless hosiery shipped in the greige, men's, all types, sizes 10 and up	51	X	X	106 683	53	X	Q24.4	101 885
3151195121	Seamless hosiery shipped in the greige, women's and misses' (except full-length and knee-length), girls' and boys'	35	X	X	82 005	47	X	P18.1	91 060
3151195131	Seamless hosiery shipped in the greige, children's and infants'	14	X	X	29 816	21	X	S	33 779
3151195Y	Seamless hosiery shipped in the greige, nsk	N	X	X	6 633	N	X	X	N
3151195YWV	Seamless hosiery shipped in the greige, nsk	N	X	X	6 633	N	X	X	2 748
315119W	Other hosiery and socks, nsk, total	N	X	X	154 726	N	X	X	N
315119WY	Other hosiery and socks, nsk, total	N	X	X	154 726	N	X	X	N
315119WYWV	Other hosiery and socks, nsk, for nonadministrative-record establishments	N	X	X	99 550	N	X	X	N
315119WYWY	Other hosiery and socks, nsk, for administrative-record establishments	N	X	X	55 176	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3151191	MEN'S FINISHED SEAMLESS HOSIERY AND SOCKS, SIZES 10 AND UP		
	United States	1 424 808	1 134 698
	Alabama	246 705	178 535
	Georgia	50 623	96 994
	New York	13 276	N
	North Carolina	679 991	584 830
	Tennessee	90 755	77 575
	Virginia	23 069	N
3151193	ALL OTHER FINISHED HOSIERY, OTHER THAN SHEER		
	United States	1 034 365	N
	Alabama	184 947	N
	North Carolina	623 837	N
	Tennessee	85 098	N

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3151195	SEAMLESS HOSIERY SHIPPED IN THE GREIGE		
	United States	225 137	229 472
	Alabama	46 399	36 659
	North Carolina	104 005	160 569

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315119	OTHER HOSIERY & SOCK MILLS				
31511101	Hosiery shipped in the greige, except pantyhose	X	340 269	N	N
31511103	Pantyhose shipped in the greige	X	D	N	N
31311103	Cotton yarns	X	393 770	N	N
31311111	Spun nylon yarn	X	69 019	N	N
31311115	Acrylic yarns	X	58 907	N	N
32522211	Nylon filament yarns	X	48 546	N	N
32522229	Spandex filament yarns	X	23 146	N	N
31311001	All other yarns	X	95 053	N	N
00190003	Flexible packaging materials	X	38 875	N	N
32221001	Paperboard containers, boxes, and corrugated paperboard	X	32 318	N	N
00970099	All other materials and components, parts, containers, and supplies	X	135 202	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	D	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315119 OTHER HOSIERY AND SOCK MILLS

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing hosiery (except women's, misses', and girls' sheer hosiery).

The data published with NAICS code 315119 include the following SIC industry:

2252 Hosiery, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt				3152127 pt.....	23699 pt	23699 pt
			3152113	23219 pt	23219 pt	3152127100 pt	2339900	2339900
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2369900	2369900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115	23229	23229	3152129	23419 pt	23419 pt
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191441	2252235	2252235				3152129100 pt	2341903	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
3151191591	2252287	2252287				315212B	23429	23429
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05	315211W pt.....	23950 pt	23950 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2310000 pt	2310000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2321000 pt	2321000 pt			
			315211WYWW pt...	2322000 pt	2322000 pt			
315191E	2253E	2253E	315211WYWW pt...	2325000 pt	2325000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2326000 pt	2326000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt	2329000 pt			
			315211WYWW pt...	2341000 pt	2341000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
315191G100	2259020	2259020	315211WYWW pt...	2385000 pt	2385000 pt			
			315211WYWW pt...	2395000 pt	2395000 pt			
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
3152221 pt.	23115 pt.	23115 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	23693 pt.	23693 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
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1997 Economic Census

Manufacturing

Industry Series



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Economics and Statistics Administration
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Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315191	Outerwear knitting mills	649	679	45 954	930 179	40 572	77 736	727 714	2 729 751	2 978 752	5 689 390	95 548
225300	Knit outerwear mills	N	643	43 581	884 752	38 694	74 664	700 260	2 590 815	2 821 238	5 390 025	85 811
225920	Knitting mills, n.e.c. (pt)	N	36	2 373	45 427	1 878	3 072	27 454	138 936	157 514	299 365	9 737

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
315191, OUTERWEAR KNITTING MILLS												
United States	1	679	327	45 954	930 179	40 572	77 736	727 714	2 729 751	2 978 752	5 689 390	95 548
California	1	97	51	4 516	80 696	3 859	8 087	57 588	180 935	190 898	375 437	15 607
Minnesota	-	6	3	682	15 159	605	1 368	12 954	24 175	22 285	45 595	968
North Carolina	1	53	31	7 040	159 465	6 191	12 011	125 789	415 925	591 167	1 028 777	23 705
Ohio	-	4	3	199	4 105	157	323	2 338	7 076	7 212	14 298	26
Washington	7	6	2	138	2 976	124	291	2 152	6 030	2 176	8 205	111

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315191, OUTERWEAR KNITTING MILLS		315191, OUTERWEAR KNITTING MILLS—Con.	
Companies ¹	number.. 649	3151911, Outerwear knitting mills—manufacturer—Con.	
All establishments	number.. 679	Production-worker hours	1,000.. 62 127
Establishments with 1 to 19 employees	number.. 352	Production-worker wages	\$1,000.. 588 523
Establishments with 20 to 99 employees	number.. 237	Total cost of materials	\$1,000.. 2 326 711
Establishments with 100 employees or more	number.. 90	Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 106 927
All employees	number.. 45 954	Cost of resales	\$1,000.. 84 587
Total compensation ²	\$1,000.. 1 135 400	Cost of fuels	\$1,000.. 27 068
Annual payroll	\$1,000.. 930 179	Cost of purchased electricity	\$1,000.. 31 628
Total fringe benefits	\$1,000.. 205 221	Cost of contract work	\$1,000.. 76 501
Production workers, average for year	number.. 40 572	Quantity of electricity purchased for heat and power	1,000 kWh.. 583 792
Production workers on March 12	number.. 40 501	Quantity of electricity generated less sold for heat and power	1,000 kWh.. —
Production workers on May 12	number.. 41 730	Total value of shipments	\$1,000.. 4 537 525
Production workers on August 12	number.. 41 182	Primary products value of shipments	\$1,000.. X
Production workers on November 12	number.. 38 875	Secondary products value of shipments	\$1,000.. X
Production-worker hours	1,000.. 77 736	Total miscellaneous receipts	\$1,000.. X
Production-worker wages	\$1,000.. 727 714	Value of resales	\$1,000.. X
Total cost of materials	\$1,000.. 2 978 752	Contract receipts	\$1,000.. X
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 527 686	Other miscellaneous receipts	\$1,000.. X
Cost of resales	\$1,000.. 94 765	Primary products specialization ratio	percent.. X
Cost of fuels	\$1,000.. 32 642	Value of primary products shipments made in all industries	\$1,000.. X
Cost of purchased electricity	\$1,000.. 40 520	Value of primary products shipments made in this industry	\$1,000.. X
Cost of contract work	\$1,000.. 283 139	Value of primary products shipments made in other industries	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 735 761	Coverage ratio	percent.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Value added	\$1,000.. 2 226 692
Total value of shipments	\$1,000.. 5 689 390	Total inventories, beginning of year	\$1,000.. 455 723
Primary products value of shipments	\$1,000.. 4 780 092	Finished goods inventories, beginning of year	\$1,000.. 256 788
Secondary products value of shipments	\$1,000.. 801 259	Work-in-process inventories, beginning of year	\$1,000.. 113 621
Total miscellaneous receipts	\$1,000.. 108 039	Materials and supplies inventories, beginning of year	\$1,000.. 85 314
Value of resales	\$1,000.. 104 806	Total inventories, end of year	\$1,000.. 481 720
Contract receipts	\$1,000.. D	Finished goods inventories, end of year	\$1,000.. 274 835
Other miscellaneous receipts	\$1,000.. D	Work-in-process inventories, end of year	\$1,000.. 111 452
Primary products specialization ratio	percent.. 85	Materials and supplies inventories, end of year	\$1,000.. 95 433
Value of primary products shipments made in all industries	\$1,000.. 4 834 980	Gross book value of total assets at beginning of year	\$1,000.. X
Value of primary products shipments made in this industry	\$1,000.. 4 780 092	Total capital expenditures (new and used)	\$1,000.. X
Value of primary products shipments made in other industries	\$1,000.. 54 888	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Coverage ratio	percent.. 98	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Value added	\$1,000.. 2 729 751	Total retirements ²	\$1,000.. X
Total inventories, beginning of year	\$1,000.. 552 352	Gross book value of total assets at end of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 279 825	Total depreciation during year ²	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 145 785	Total rental payments ²	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 126 742	Buildings and other structures rental payments ²	\$1,000.. X
Total inventories, end of year	\$1,000.. 572 044	Machinery and equipment rental payments ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 297 325	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 147 398	Response coverage ratio ⁴	percent.. X
Materials and supplies inventories, end of year	\$1,000.. 127 321	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 1 289 708	Response coverage ratio ⁴	percent.. X
Total capital expenditures (new and used)	\$1,000.. 95 548	Cost of purchased communications services ³	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 10 582	Response coverage ratio ⁴	percent.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 84 966	Cost of purchased legal services ³	\$1,000.. X
Total retirements ²	\$1,000.. 37 643	Response coverage ratio ⁴	percent.. X
Gross book value of total assets at end of year	\$1,000.. 1 347 613	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Total depreciation during year ²	\$1,000.. 91 738	Response coverage ratio ⁴	percent.. X
Total rental payments ²	\$1,000.. 39 639	Cost of purchased advertising services ³	\$1,000.. X
Buildings and other structures rental payments ²	\$1,000.. 16 582	Response coverage ratio ⁴	percent.. X
Machinery and equipment rental payments ²	\$1,000.. 23 057	Cost of purchased software and other data processing services ³	\$1,000.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 7 927	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 73	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 24 121	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 73	3151912, Outerwear knitting mills—jobber	
Cost of purchased communications services ³	\$1,000.. 3 550	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 73	All establishments	number.. 42
Cost of purchased legal services ³	\$1,000.. 4 764	Establishments with 1 to 19 employees	number.. 19
Response coverage ratio ⁴	percent.. 73	Establishments with 20 to 99 employees	number.. 15
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 721	Establishments with 100 employees or more	number.. 8
Response coverage ratio ⁴	percent.. 73	All employees	number.. 3 372
Cost of purchased advertising services ³	\$1,000.. 6 109	Total compensation ²	\$1,000.. 99 627
Response coverage ratio ⁴	percent.. 73	Annual payroll	\$1,000.. 84 862
Cost of purchased software and other data processing services ³	\$1,000.. 1 891	Total fringe benefits	\$1,000.. 14 765
Response coverage ratio ⁴	percent.. 73	Production workers, average for year	number.. 2 559
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 6 310	Production workers on March 12	number.. 2 573
Response coverage ratio ⁴	percent.. 73	Production workers on May 12	number.. 2 593
3151911, Outerwear knitting mills—manufacturer		Production workers on August 12	number.. 2 502
Companies ¹	number.. N	Production workers on November 12	number.. 2 568
All establishments	number.. 446	Production-worker hours	1,000.. 4 992
Establishments with 1 to 19 employees	number.. 241	Production-worker wages	\$1,000.. 52 186
Establishments with 20 to 99 employees	number.. 137	Total cost of materials	\$1,000.. 595 142
Establishments with 100 employees or more	number.. 68	Cost of materials, parts, containers, etc., consumed	\$1,000.. 380 772
All employees	number.. 36 351	Cost of resales	\$1,000.. 8 355
Total compensation ²	\$1,000.. 904 669	Cost of fuels	\$1,000.. 3 557
Annual payroll	\$1,000.. 734 368	Cost of purchased electricity	\$1,000.. 5 717
Total fringe benefits	\$1,000.. 170 301	Cost of contract work	\$1,000.. 196 741
Production workers, average for year	number.. 32 669	Quantity of electricity purchased for heat and power	1,000 kWh.. 119 146
Production workers on March 12	number.. 32 783	Quantity of electricity generated less sold for heat and power	1,000 kWh.. —
Production workers on May 12	number.. 33 692		
Production workers on August 12	number.. 33 256		
Production workers on November 12	number.. 30 945		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315191, OUTERWEAR KNITTING MILLS—Con.		315191, OUTERWEAR KNITTING MILLS—Con.	
3151912, Outerwear knitting mills—jobber—Con.		3151913, Outerwear knitting mills—contractor—Con.	
Total value of shipments	\$1,000..	897 879	X
Primary products value of shipments	\$1,000..	X	X
Secondary products value of shipments	\$1,000..	X	X
Total miscellaneous receipts	\$1,000..	X	X
Value of resales	\$1,000..	X	X
Contract receipts	\$1,000..	X	X
Other miscellaneous receipts	\$1,000..	X	X
Primary products specialization ratio	percent..	X	X
Value of primary products shipments made in all industries	\$1,000..	X	X
Value of primary products shipments made in this industry	\$1,000..	X	X
Value of primary products shipments made in other industries	\$1,000..	X	X
Coverage ratio	percent..	X	X
Value added	\$1,000..	305 148	X
Total inventories, beginning of year	\$1,000..	75 516	X
Finished goods inventories, beginning of year	\$1,000..	20 838	X
Work-in-process inventories, beginning of year	\$1,000..	30 559	X
Materials and supplies inventories, beginning of year	\$1,000..	24 119	X
Total inventories, end of year	\$1,000..	80 471	X
Finished goods inventories, end of year	\$1,000..	19 974	X
Work-in-process inventories, end of year	\$1,000..	33 834	X
Materials and supplies inventories, end of year	\$1,000..	26 663	X
Gross book value of total assets at beginning of year	\$1,000..	X	X
Total capital expenditures (new and used)	\$1,000..	X	X
Capital expenditures for buildings and other structures (new and used)	\$1,000..	X	X
Capital expenditures for machinery and equipment (new and used)	\$1,000..	X	X
Total retirements ²	\$1,000..	X	X
Gross book value of total assets at end of year	\$1,000..	X	X
Total depreciation during year ²	\$1,000..	X	X
Total rental payments ²	\$1,000..	X	X
Buildings and other structures rental payments ²	\$1,000..	X	X
Machinery and equipment rental payments ²	\$1,000..	X	X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased communications services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased legal services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased accounting and bookkeeping services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased advertising services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased software and other data processing services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
3151913, Outerwear knitting mills—contractor		3151913, Outerwear knitting mills—contractor—Con.	
Companies ¹	number..	N	X
All establishments	number..	191	X
Establishments with 1 to 19 employees	number..	92	X
Establishments with 20 to 99 employees	number..	85	X
Establishments with 100 employees or more	number..	14	X
All employees	number..	6 231	X
Total compensation ²	\$1,000..	131 104	X
Annual payroll	\$1,000..	110 949	X
Total fringe benefits	\$1,000..	20 155	X
Production workers, average for year	number..	5 344	X
Production workers on March 12	number..	5 145	X
Production workers on May 12	number..	5 445	X
Production workers on August 12	number..	5 424	X
Production workers on November 12	number..	5 362	X
Production-worker hours	1,000..	10 617	X
Production-worker wages	\$1,000..	87 005	X
Total cost of materials	\$1,000..	56 899	X
Cost of materials, parts, containers, etc., consumed	\$1,000..	39 987	X
Cost of resales	\$1,000..	1 823	X
Cost of fuels	\$1,000..	2 017	X
Cost of purchased electricity	\$1,000..	3 175	X
Cost of contract work	\$1,000..	9 897	X
Quantity of electricity purchased for heat and power	1,000 kWh..	32 823	X
Quantity of electricity generated less sold for heat and power	1,000 kWh..	-	X
Total value of shipments	\$1,000..	253 986	X
Primary products value of shipments	\$1,000..	X	X
Secondary products value of shipments	\$1,000..	X	X
Total miscellaneous receipts	\$1,000..	X	X
Value of resales	\$1,000..	X	X
Contract receipts	\$1,000..	X	X
Other miscellaneous receipts	\$1,000..	X	X
Primary products specialization ratio	percent..	X	X
Value of primary products shipments made in all industries	\$1,000..	X	X
Value of primary products shipments made in this industry	\$1,000..	X	X
Value of primary products shipments made in other industries	\$1,000..	X	X
Coverage ratio	percent..	X	X
Value added	\$1,000..	197 911	X
Total inventories, beginning of year	\$1,000..	21 113	X
Finished goods inventories, beginning of year	\$1,000..	2 199	X
Work-in-process inventories, beginning of year	\$1,000..	1 605	X
Materials and supplies inventories, beginning of year	\$1,000..	17 309	X
Total inventories, end of year	\$1,000..	9 853	X
Finished goods inventories, end of year	\$1,000..	2 516	X
Work-in-process inventories, end of year	\$1,000..	2 112	X
Materials and supplies inventories, end of year	\$1,000..	5 225	X
Gross book value of total assets at beginning of year	\$1,000..	X	X
Total capital expenditures (new and used)	\$1,000..	X	X
Capital expenditures for buildings and other structures (new and used)	\$1,000..	X	X
Capital expenditures for machinery and equipment (new and used)	\$1,000..	X	X
Total retirements ²	\$1,000..	X	X
Gross book value of total assets at end of year	\$1,000..	X	X
Total depreciation during year ²	\$1,000..	X	X
Total rental payments ²	\$1,000..	X	X
Buildings and other structures rental payments ²	\$1,000..	X	X
Machinery and equipment rental payments ²	\$1,000..	X	X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased communications services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased legal services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased accounting and bookkeeping services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased advertising services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased software and other data processing services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..	X	X
Response coverage ratio ⁴	percent..	X	X

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.
³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315191, OUTERWEAR KNITTING MILLS												
All establishments	1	679	327	45 954	930 179	40 572	77 736	727 714	2 729 751	2 978 752	5 689 390	95 548
Establishments with 1 to 4 employees	9	150	—	322	6 051	313	541	4 967	15 672	16 055	31 811	673
Establishments with 5 to 9 employees	9	89	—	595	11 383	547	999	9 101	27 186	24 714	51 956	916
Establishments with 10 to 19 employees	4	113	—	1 591	30 805	1 355	2 418	22 246	87 475	129 156	215 620	4 616
Establishments with 20 to 49 employees	5	156	156	4 965	88 344	4 237	7 678	64 291	193 184	169 412	373 133	7 857
Establishments with 50 to 99 employees	4	81	81	5 673	102 403	4 779	8 850	73 456	223 828	258 355	484 699	9 684
Establishments with 100 to 249 employees	1	56	56	8 296	153 808	7 324	14 392	121 140	315 439	305 772	619 828	22 460
Establishments with 250 to 499 employees	—	21	21	8 040	177 862	7 014	14 153	131 501	383 572	552 004	951 582	14 685
Establishments with 500 to 999 employees	1	7	7	4 506	102 994	3 995	7 996	80 795	254 149	404 988	663 576	16 736
Establishments with 1,000 to 2,499 employees	—	4	4	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	2	2	D	D	D	D	D	D	D	D	D
Administrative records ²	9	279	—	2 342	33 901	2 159	3 692	27 437	83 054	75 394	158 293	2 925

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315191	Outerwear knitting mills ..	679	45 954	930 179	40 572	77 736	727 714	2 729 751	2 978 752	5 689 390	95 548
3151911	Men's and junior boys' sweaters (from yarns or from fabrics knit in the same establishment)	15	1 677	34 198	1 402	2 930	25 913	59 502	61 473	119 702	1 676
3151913	Women's, misses', and juniors' sweaters (from yarns or from fabrics knit in the same establishment)	49	3 321	70 185	2 733	5 588	49 396	169 834	239 314	419 088	11 183
3151915	Girls', little boys', and infants' sweaters (from yarns or from fabrics knit in the same establishment)	3	272	4 965	258	431	4 240	14 237	9 990	24 337	D
3151917	Men's and junior boys' knit shirts (from yarns or from fabrics knit in the same establishment)	35	19 794	426 529	18 023	34 559	357 381	1 634 870	1 782 509	3 388 721	38 374
3151919	Women's, misses', and juniors' knit shirts and blouses (from yarns or from fabrics knit in the same establishment)	12	1 533	35 041	1 195	2 621	19 690	84 999	122 227	198 611	2 363
315191C	All other knit outerwear products	44	4 829	101 317	4 257	8 071	75 095	215 706	282 260	504 664	16 862
315191E	Contract and commission receipts for knitting only or knitting and finishing outerwear	187	6 123	110 191	5 242	10 451	86 311	197 436	56 835	253 448	5 989
315191G	Knit gloves and mittens, including fabric-and-leather combinations (made in knitting mills)	14	1 615	35 003	1 221	2 230	19 304	114 135	140 223	257 212	8 422

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315191	Knit outerwear	N	X	X	4 834 980	N	X	X	N
3151911	Men's and junior boys' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	125 773	N	X	X	172 255
31519111	Men's and junior boys' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	125 773	N	X	X	N
3151911100	Men's and junior boys' sweaters (from yarns or from fabrics knit in the same establishment) \$	28	X	X	125 773	40	X	X	172 255
3151913	Women's, misses', and juniors' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	369 931	N	X	X	301 578
31519131	Women's, misses', and juniors' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	369 931	N	X	X	N
3151913100	Women's, misses', and juniors' sweaters (from yarns or from fabrics knit in the same establishment) \$	51	X	X	369 931	60	X	X	301 578
3151915	Girls', little boys', and infants' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	41 709	N	X	X	25 783
31519151	Girls', little boys', and infants' sweaters (from yarns or from fabrics knit in the same establishment)	N	X	X	41 709	N	X	X	N
3151915100	Girls', little boys', and infants' sweaters (from yarns or from fabrics knit in the same establishment) \$	8	X	X	41 709	11	X	X	25 783
3151917	Men's and junior boys' knit shirts (from yarns or from fabrics knit in the same establishment)	N	X	X	2 669 219	N	X	X	1 449 207
31519171	Men's and junior boys' knit shirts (from yarns or from fabrics knit in the same establishment)	N	X	X	2 669 219	N	X	X	N
3151917100	Men's and junior boys' knit shirts (from yarns or from fabrics knit in the same establishment) \$	33	X	X	2 669 219	40	X	X	1 449 207
3151919	Women's, misses', and juniors' knit shirts and blouses (from yarns or from fabrics knit in the same establishment)	N	X	X	203 213	N	X	X	179 154
31519191	Women's, misses', and juniors' knit shirts and blouses (from yarns or from fabrics knit in the same establishment)	N	X	X	203 213	N	X	X	N
3151919100	Women's, misses', and juniors' knit shirts and blouses (from yarns or from fabrics knit in the same establishment) \$	30	X	X	203 213	26	X	X	179 154
315191A	Girls', little boys', and infants' knit shirts and blouses (from yarns or from fabrics knit in the same establishment)	N	X	X	18 149	N	X	X	64 018
315191A1	Girls', little boys', and infants' knit shirts and blouses (from yarns or from fabrics knit in the same establishment)	N	X	X	18 149	N	X	X	N
315191A100	Girls', little boys', and infants' knit shirts and blouses (from yarns or from fabrics knit in the same establishment) \$	6	X	X	18 149	9	X	X	64 018
315191C	All other knit outerwear products	N	X	X	487 184	N	X	X	743 102
315191C1	All other knit outerwear products	N	X	X	463 907	N	X	X	N
315191C110	Women's, misses', and juniors' knit outerwear (except sweaters, shirts, and blouses) (from yarns or from fabrics knit in the same establishment)	25	X	X	152 881	25	X	X	D
315191C120	Men's and junior boys' knit outerwear (except sweaters and shirts) (from yarns or from fabrics knit in the same establishment)	24	X	X	263 237	20	X	X	460 386
315191C130	Girls', little boys', and infants' knit outerwear (except sweaters, shirts, and blouses) (from yarns or from fabrics knit in the same establishment)	13	X	X	47 789	10	X	X	150 926
315191CY	All other knit outerwear products, nsk	N	X	X	23 277	N	X	X	N
315191CYWV	All other knit outerwear products, nsk	N	X	X	23 277	N	X	X	D
315191E	Contract and commission receipts for knitting only or knitting and finishing outerwear	N	X	X	251 542	N	X	X	411 242
315191E1	Contract and commission receipts for knitting only or knitting and finishing outerwear	N	X	X	251 542	N	X	X	N
315191E100	Contract and commission receipts for knitting only or knitting and finishing outerwear	174	X	X	251 542	191	X	X	399 509

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315191	Knit outerwear—Con.								
315191G	Knit gloves and mittens, including fabric-and-leather combinations (made in knitting mills)	N	X	X	154 087	N	X	X	N
315191G1	Knit gloves and mittens, including fabric-and-leather combinations (made in knitting mills)	N	X	X	154 087	N	X	X	N
315191G100	Knit gloves and mittens, including fabric-and-leather combinations (made in knitting mills) \$	14	X	X	154 087	14	X	X	108 006
315191W	Knit outerwear, nsk, total	N	X	X	514 173	N	X	X	N
315191WY	Knit outerwear, nsk, total	N	X	X	514 173	N	X	X	N
315191WYWW	Knit outerwear, nsk, for nonadministrative-record establishments	N	X	X	381 043	N	X	X	N
315191WYWY	Knit outerwear, nsk, for administrative-record establishments	N	X	X	133 130	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3151911	MEN'S AND JUNIOR BOYS' SWEATERS (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	125 773	172 255
	California	14 062	N
	New York	40 526	60 796
3151913	WOMEN'S, MISSES', AND JUNIORS' SWEATERS (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	369 931	301 578
	California	56 559	27 792
	New Jersey	58 017	N
	New York	193 016	169 952
3151915	GIRLS', LITTLE BOYS', AND INFANTS' SWEATERS (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	41 709	25 783
	New York	19 039	18 283
3151917	MEN'S AND JUNIOR BOYS' KNIT SHIRTS (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	2 669 219	1 449 207
	Alabama	269 205	N
	California	45 642	N
	North Carolina	600 781	434 445
	Pennsylvania	59 455	44 617
	Tennessee	23 909	N
3151919	WOMEN'S, MISSES', AND JUNIORS' KNIT SHIRTS AND BLOUSES (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	203 213	179 154
	California	50 123	19 228
	North Carolina	77 422	N
315191A	GIRLS', LITTLE BOYS', AND INFANTS' KNIT SHIRTS AND BLOUSES (FROM YARNS OR FROM FABRICS KNIT IN THE SAME ESTABLISHMENT)		
	United States	18 149	64 018

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
315191C	ALL OTHER KNIT OUTERWEAR PRODUCTS		
	United States	487 184	743 102
	California	46 794	16 930
	New Jersey	29 244	N
	New York	12 120	7 375
	Pennsylvania	22 137	12 274
	Virginia	10 361	N
315191E	CONTRACT AND COMMISSION RECEIPTS FOR KNITTING ONLY OR KNITTING AND FINISHING OUTERWEAR		
	United States	251 542	411 242
	California	42 443	44 842
	Florida	10 567	24 991
	New Jersey	28 382	26 845
	New York	131 924	137 336
	North Carolina	2 881	45 156
	Pennsylvania	10 020	11 782
315191G	KNIT GLOVES AND MITTENS, INCLUDING FABRIC-AND-LEATHER COMBINATIONS (MADE IN KNITTING MILLS)		
	United States	154 087	N
	North Carolina	43 144	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315191	OUTERWEAR KNITTING MILLS				
31324000	Knit fabrics	49.4	763 985	N	N
32520003	Manmade fibers, staple, and tow	1.7	5 016	N	N
11192001	Raw cotton fibers	D	D	N	N
11241001	Raw wool fibers	D	D	N	N
31311105	Carded cotton yarn	295.2	786 386	N	N
31311107	Combed cotton yarn	^a 37.9	83 448	N	N
31311109	Spun rayon and acetate yarn	S	2 505	N	N
31311111	Spun nylon yarn	S	913	N	N
31311113	Spun polyester yarns	D	D	N	N
32522101	Rayon, acetate, and/or lyocell filament yarns	S	1 629	N	N
32522211	Nylon filament yarn	S	2 316	N	N
32522221	Polyester filament yarn	^p 1.8	3 822	N	N
31311115	Acrylic yarns	S	46 885	N	N
31311121	Wool yarn	3.9	13 540	N	N
31311001	All other yarns	S	20 204	N	N
00970099	All other materials and components, parts, containers, and supplies	X	326 509	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	278 868	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^a 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315191 OUTERWEAR KNITTING MILLS

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) knitting outerwear; (2) knitting fabric and manufacturing outerwear; and (3) knitting, manufacturing, and finishing knit outerwear. Examples of products made in knit outerwear mills are shirts, shorts, sweat suits, sweaters, gloves, and pants.

The data published with NAICS code 315191 include the following SIC industries:

2253 Knit outerwear mills
2259 Knitting mills, n.e.c. (pt)

3151911 Outerwear Knitting Mills - Manufacturer

Establishments primarily engaged in knitting outerwear clothing.

3151912 Outerwear Knitting Mills - Jobber

Establishments engaged as knit outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

3151913 Outerwear Knitting Mills - Contractor

Establishments primarily engaged in manufacturing knit outerwear on materials owned by others (commission basis).

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
\$ 3151911100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151913100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151915100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151917100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151919100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 315191A100	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 315191G100.....	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01	315211WYWW pt...	2310000 pt	2310000 pt			
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313 pt.	23413 pt.	23413 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341303 pt.	2341300 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2322200 pt.	2322200 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221 pt.	23115 pt.	23115 pt.	3152317 pt.	23422 pt.	23422 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23693 pt.	23693 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225 pt.	23117 pt.	23117 pt.	3152319 pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152319 pt.	23693 pt.	23693 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319000 pt.	23840 pt.	23840 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23690 pt.	23690 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
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1997 Economic Census

Manufacturing

Industry Series



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Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315192	Underwear & nightwear knitting mills	43	56	6 941	130 402	5 967	11 275	98 928	378 902	311 839	686 034	18 245
225400	Knit underwear mills	N	54	D	D	D	D	D	D	D	D	D
225930	Knitting mills, n.e.c. (pt)	N	2	D	D	D	D	D	D	D	D	D

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315192, UNDERWEAR & NIGHTWEAR KNITTING MILLS												
United States	1	56	33	6 941	130 402	5 967	11 275	98 928	378 902	311 839	686 034	18 245
North Carolina	1	12	9	2 652	56 102	2 310	4 593	42 754	96 958	160 531	250 256	6 254

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315192, UNDERWEAR & NIGHTWEAR KNITTING MILLS		315192, UNDERWEAR & NIGHTWEAR KNITTING MILLS—Con.	
Companies ¹	number.. 43	Value added	\$1,000.. 378 902
All establishments	number.. 56	Total inventories, beginning of year	\$1,000.. 115 778
Establishments with 1 to 19 employees	number.. 23	Finished goods inventories, beginning of year	\$1,000.. 66 385
Establishments with 20 to 99 employees	number.. 14	Work-in-process inventories, beginning of year	\$1,000.. 24 027
Establishments with 100 employees or more	number.. 19	Materials and supplies inventories, beginning of year	\$1,000.. 25 366
All employees	number.. 6 941	Total inventories, end of year	\$1,000.. 119 156
Total compensation ²	\$1,000.. 161 334	Finished goods inventories, end of year	\$1,000.. 68 622
Annual payroll	\$1,000.. 130 402	Work-in-process inventories, end of year	\$1,000.. 26 497
Total fringe benefits	\$1,000.. 30 932	Materials and supplies inventories, end of year	\$1,000.. 24 037
Production workers, average for year	number.. 5 967	Gross book value of total assets at beginning of year	\$1,000.. 202 288
Production workers on March 12	number.. 6 188	Total capital expenditures (new and used)	\$1,000.. 18 245
Production workers on May 12	number.. 6 018	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 3 011
Production workers on August 12	number.. 5 882	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 15 234
Production workers on November 12	number.. 5 780	Total retirements ²	\$1,000.. 4 470
Production-worker hours	1,000.. 11 275	Gross book value of total assets at end of year	\$1,000.. 216 063
Production-worker wages	\$1,000.. 98 928	Total depreciation during year ²	\$1,000.. 13 110
Total cost of materials	\$1,000.. 311 839	Total rental payments ²	\$1,000.. 1 926
Cost of materials, parts, containers, etc., consumed	\$1,000.. 264 153	Buildings and other structures rental payments ²	\$1,000.. 568
Cost of resales	\$1,000.. 14 406	Machinery and equipment rental payments ²	\$1,000.. 1 358
Cost of fuels	\$1,000.. 2 415	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 605
Cost of purchased electricity	\$1,000.. 5 699	Response coverage ratio ⁴	percent.. 65
Cost of contract work	\$1,000.. 25 166	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 1 344
Quantity of electricity purchased for heat and power	1,000 kWh.. 95 230	Response coverage ratio ⁴	percent.. 65
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 732
Total value of shipments	\$1,000.. 686 034	Response coverage ratio ⁴	percent.. 65
Primary products value of shipments	\$1,000.. 595 920	Cost of purchased legal services ³	\$1,000.. 321
Secondary products value of shipments	\$1,000.. 69 244	Response coverage ratio ⁴	percent.. 65
Total miscellaneous receipts	\$1,000.. 20 870	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 601
Value of resales	\$1,000.. 20 286	Response coverage ratio ⁴	percent.. 65
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 383
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 65
Primary products specialization ratio	percent.. 89	Cost of purchased software and other data processing services ³	\$1,000.. 373
Value of primary products shipments made in all industries	\$1,000.. 1 234 464	Response coverage ratio ⁴	percent.. 65
Value of primary products shipments made in this industry	\$1,000.. 595 920	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 109
Value of primary products shipments made in other industries	\$1,000.. 638 544	Response coverage ratio ⁴	percent.. 65
Coverage ratio	percent.. 48		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315192. UNDERWEAR & NIGHTWEAR KNITTING MILLS												
All establishments	1	56	33	6 941	130 402	5 967	11 275	98 928	378 902	311 839	686 034	18 245
Establishments with 1 to 4 employees	9	14	—	28	462	23	42	293	975	1 131	2 100	70
Establishments with 5 to 9 employees	9	5	—	33	337	30	47	234	755	790	1 531	51
Establishments with 10 to 19 employees	9	4	—	49	1 342	38	81	1 100	2 013	1 988	3 742	145
Establishments with 20 to 49 employees	4	5	5	185	2 683	167	274	2 014	6 408	7 476	14 754	576
Establishments with 50 to 99 employees	1	9	9	621	10 477	563	920	7 607	19 664	34 165	52 528	618
Establishments with 100 to 249 employees	2	10	10	1 535	24 654	1 361	2 458	21 273	83 562	67 103	149 246	3 458
Establishments with 250 to 499 employees	2	5	5	1 479	26 159	1 309	2 654	22 010	87 991	91 819	181 721	1 857
Establishments with 500 to 999 employees	—	3	3	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	18	—	63	822	54	91	540	1 778	1 977	3 735	125

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315192	Underwear & nightwear knitting mills	56	6 941	130 402	5 967	11 275	98 928	378 902	311 839	686 034	18 245
3151921	Men's and junior boys' knit underwear and nightwear	20	3 471	65 217	2 956	5 384	48 420	238 738	161 486	402 422	11 824
3151923	Women's, misses', juniors', girls', little boys', and infants' knit underwear and nightwear	15	2 978	57 124	2 568	5 000	43 759	131 585	133 919	258 177	5 490
3151927	Women's, misses', and juniors' knit brassieres, girdles, and allied garments	1	D	D	D	D	D	D	D	D	D

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315192	Knit underwear and nightwear	N	X	X	1 234 464	N	X	X	N
3151921	Men's and junior boys' knit underwear and nightwear	N	X	X	897 564	N	X	X	D
31519211	Men's and junior boys' knit underwear and nightwear	N	X	X	897 564	N	X	X	N
3151921110	Men's and junior boys' knit underwear (from yarns or from fabrics knit in the same establishment) \$	16	X	X	896 257	23	X	X	725 936
3151921120	Men's and junior boys' knit nightwear (except robes) (from yarns or from fabrics knit in the same establishment) \$	3	X	X	1 307	2	X	X	D
3151921Y	Men's and junior boys' knit underwear and nightwear, nsk	N	X	X	-	N	X	X	N
3151921YVW	Men's and junior boys' knit underwear and nightwear, nsk	N	X	X	-	N	X	X	-
3151923	Women's, misses', juniors', girls', little boys', and infants' knit underwear and nightwear	N	X	X	324 728	N	X	X	405 198
31519231	Women's, misses', juniors', girls', little boys', and infants' knit underwear and nightwear	N	X	X	324 728	N	X	X	N
3151923110	Women's, misses', juniors', girls', little boys', and infants' knit underwear, (except girdles) (from yarns or from fabrics knit in the same establishment) \$	20	X	X	287 720	31	X	X	351 409
3151923120	Women's, misses', juniors', girls', little boys', and infants' knit nightwear, (except robes) (from yarns or from fabrics knit in the same establishment) \$	5	X	X	37 008	13	X	X	53 789
3151923Y	Women's, misses', juniors', girls', little boys', and infants' knit underwear and nightwear, nsk	N	X	X	-	N	X	X	N
3151923YVW	Women's, misses', juniors', girls', little boys', and infants' knit underwear and nightwear, nsk	N	X	X	-	N	X	X	-
3151927	Women's, misses', and juniors' knit brassieres, girdles, and allied garments	N	X	X	D	N	X	X	N
31519271	Women's, misses', and juniors' knit brassieres, girdles, and allied garments	N	X	X	D	N	X	X	N
3151927110	Women's, misses', and juniors' knit corsets, girdles, including maternity and panty girdles, and combinations (except surgical corsets) (from yarns or from fabrics knit in the same establishment) \$	-	X	X	-	N	X	X	N
3151927120	Women's, misses', and juniors' knit brassieres, including maternity, bra-lettes, and bandeaux (from yarns or from fabrics knit in the same establishment) \$	1	X	X	D	N	X	X	N
3151927Y	Women's, misses', and juniors' knit brassieres, girdles, and allied garments, nsk	N	X	X	-	N	X	X	N
3151927YVW	Women's, misses', and juniors' knit brassieres, girdles, and allied garments, nsk	N	X	X	-	N	X	X	N
315192W	Knit underwear and nightwear, nsk, total	N	X	X	D	N	X	X	N
315192WY	Knit underwear and nightwear, nsk, total	N	X	X	D	N	X	X	N
315192WYVW	Knit underwear and nightwear, nsk, for nonadministrative-record establishments	N	X	X	D	N	X	X	N
315192WYWY	Knit underwear and nightwear, nsk, for administrative-record establishments	N	X	X	D	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3151921	MEN'S AND JUNIOR BOYS' KNIT UNDERWEAR AND NIGHTWEAR		
	United States	897 564	D
	North Carolina	138 334	65 381
3151923	WOMEN'S, MISSES', JUNIORS', GIRLS', LITTLE BOYS', AND INFANTS' KNIT UNDERWEAR AND NIGHTWEAR		
	United States	324 728	405 198
	Georgia	10 886	N
	North Carolina	142 720	173 369
	Pennsylvania	43 085	55 570
3151927	WOMEN'S, MISSES', AND JUNIORS' KNIT BRASSIERES, GIRDLES, AND ALLIED GARMENTS		
	United States	D	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315192	UNDERWEAR & NIGHTWEAR KNITTING MILLS				
31324000	Knit fabrics	S	33 411	N	N
31311105	Carded cotton yarn	%60.2	87 856	N	N
31311107	Combed cotton yarn	S	40 404	N	N
31311111	Spun nylon yarn	D	D	N	N
31311113	Spun polyester yarns	S	8 642	N	N
32522101	Rayon, acetate, and/or lyocell filament yarns	D	D	N	N
32522211	Nylon filament yarn	8.7	30 227	N	N
32522221	Polyester filament yarn	2.2	4 807	N	N
31311115	Acrylic yarns	D	D	N	N
31311001	All other yarns	D	D	N	N
00970099	All other materials and components, parts, containers, and supplies	X	39 679	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	10 571	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315192 UNDERWEAR AND NIGHTWEAR KNITTING MILLS

This U.S. industry comprises establishments primarily engaged in one of the following: (1) knitting underwear and nightwear; (2) knitting fabric and manufacturing underwear and nightwear; or (3) knitting, manufacturing, and finishing knit underwear and nightwear. Examples of products produced in underwear and nightwear knitting mills are briefs, underwear T-shirts, pajamas, nightshirts, foundation garments, and panties.

The data published with NAICS code 315192 include the following SIC industries:

2254 Knit underwear mills
2259 Knitting mills, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315192 do not include knitting mills primarily engaged in the manufacture of bath and lounge robes. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
\$ 3151921110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151921120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151923110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151923120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151927110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3151927120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt				3152127 pt.....	23699 pt	23699 pt
			3152113	23219 pt	23219 pt	3152127100 pt	2339900	2339900
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2369900	2369900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115	23229	23229	3152129	23419 pt	23419 pt
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191441	2252235	2252235				3152129100 pt	2341903	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
3151191591	2252287	2252287				315212B	23429	23429
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01	315211WYWW pt...	2310000 pt	2310000 pt			
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.....	23950 pt.....	23950 pt.....	315223W pt.....	23610 pt.....	23610 pt.....	3152323 pt.....	23614 pt.....	23614 pt.....
315212WYWW pt...	2331000 pt.....	2331000 pt.....	315223WYWW pt...	2321000 pt.....	2321000 pt.....	3152323010.....	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2335000 pt.....	2335000 pt.....	315223WYWW pt...	2361000 pt.....	2361000 pt.....	3152323020.....	2361401.....	2361400 pt.....
315212WYWW pt...	2337000 pt.....	2337000 pt.....	315223WYWW pt...	2321002 pt.....	2321002 pt.....	3152323YVW pt...	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2339000 pt.....	2339000 pt.....	315223WYWW pt...	2361002 pt.....	2361002 pt.....	3152323YVW pt...	2361400 pt.....	2361400 pt.....
315212WYWW pt...	2341000 pt.....	2341000 pt.....	3152241 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt...	2342000 pt.....	2342000 pt.....	3152241 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt...	2346000 pt.....	2346000 pt.....	3152241010.....	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331000 pt.....	2331000 pt.....
315212WYWW pt...	2369000 pt.....	2369000 pt.....	3152241020.....	2369342.....	2369344.....	315232WYWW pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2384000 pt.....	2384000 pt.....	3152241YVW pt...	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331002 pt.....	2331002 pt.....
315212WYWW pt...	2385000 pt.....	2385000 pt.....	3152241YVW pt...	2369300 pt.....	2369300 pt.....	315232WYWW pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2389000 pt.....	2389000 pt.....	3152243.....	23252.....	23252.....	3152330 pt.....	23350 pt.....	23350 pt.....
315212WYWW pt...	2395000 pt.....	2395000 pt.....	3152243000.....	2325200.....	2325200.....	3152330 pt.....	23353.....	23353.....
315212WYWW pt...	2331002 pt.....	2331002 pt.....	315224W pt.....	23250 pt.....	23250 pt.....	3152330 pt.....	23610 pt.....	23610 pt.....
315212WYWW pt...	2331902.....	2331902.....	315224W pt.....	23690 pt.....	23690 pt.....	3152330 pt.....	23615 pt.....	23615 pt.....
315212WYWW pt...	2335002 pt.....	2335002 pt.....	315224WYWW pt...	2325000 pt.....	2325000 pt.....	3152330010.....	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2335902.....	2335902.....	315224WYWW pt...	2369000 pt.....	2369000 pt.....	3152330020.....	2361501.....	2361500 pt.....
315212WYWW pt...	2337002 pt.....	2337002 pt.....	315224WYWW pt...	2325002 pt.....	2325002 pt.....	3152330YVW pt...	2335000 pt.....	2335000 pt.....
315212WYWW pt...	2337902.....	2337902.....	315224WYWW pt...	2369002 pt.....	2369002 pt.....	3152330YVW pt...	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2339002 pt.....	2339002 pt.....	3152251.....	23261.....	23261.....	3152330YVW pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2339902.....	2339902.....	3152251000.....	2326100.....	2326100.....	3152330YVW pt...	2361500 pt.....	2361500 pt.....
315212WYWW pt...	2341002 pt.....	2341002 pt.....	3152253.....	23262.....	23262.....	3152330YVW pt...	2335002 pt.....	2335002 pt.....
315212WYWW pt...	2341902.....	2341902.....	3152253000.....	2326200.....	2326200.....	3152330YVW pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2342002 pt.....	2342002 pt.....	315225W.....	23260 pt.....	23260 pt.....	3152341 pt.....	23371.....	23371.....
315212WYWW pt...	2361002 pt.....	2361002 pt.....	315225WYWW.....	2326000 pt.....	2326000 pt.....	3152341 pt.....	23692 pt.....	23692 pt.....
315212WYWW pt...	2361902.....	2361902.....	315225WYWW.....	2326002 pt.....	2326002 pt.....	3152341010.....	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2369002 pt.....	2369002 pt.....	3152281.....	23291.....	23291.....	3152341020.....	2369201.....	2369200 pt.....
315212WYWW pt...	2369002 pt.....	2369002 pt.....	3152281000.....	2329100.....	2329100.....	3152341YVW pt...	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2384002 pt.....	2384002 pt.....	3152283 pt.....	23293 pt.....	23293 pt.....	3152341YVW pt...	2369200 pt.....	2369200 pt.....
315212WYWW pt...	2385002 pt.....	2385002 pt.....	3152283 pt.....	23693 pt.....	23693 pt.....	3152343.....	23372.....	23372.....
315212WYWW pt...	2389002 pt.....	2389002 pt.....	3152283010.....	2329310.....	2329310.....	3152343000.....	2337200.....	2337200.....
315212WYWW pt...	2395002 pt.....	2395002 pt.....	3152283020.....	2369395.....	2369393 pt.....	3152345 pt.....	23374.....	23374.....
3152211 pt.....	23221.....	23221.....	3152283130.....	2329360.....	2329360.....	3152345 pt.....	23693 pt.....	23693 pt.....
3152211 pt.....	23412 pt.....	23412 pt.....	3152283140.....	2369372.....	2369370.....	3152345010.....	2337410.....	2337410.....
3152211010.....	2322100 pt.....	2322100 pt.....	3152283150.....	2329380.....	2329380.....	3152345030.....	2369394.....	2369393 pt.....
3152211020.....	2341203.....	2341200 pt.....	3152283YVW pt...	2329300.....	2329300.....	3152345120.....	2337420.....	2337420.....
3152211YVW pt...	2322100 pt.....	2322100 pt.....	3152283YVW pt...	2369300 pt.....	2369300 pt.....	3152345YVW pt...	2337400.....	2337400.....
3152211YVW pt...	2341200 pt.....	2341200 pt.....	3152285.....	23851 pt.....	23851 pt.....	3152345YVW pt...	2369300 pt.....	2369300 pt.....
3152213 pt.....	23222.....	23222.....	3152285100.....	2385193.....	2385198 pt.....	3152347.....	23851 pt.....	23851 pt.....
3152213 pt.....	23413 pt.....	23413 pt.....	315228W pt.....	23290 pt.....	23290 pt.....	3152347000.....	2385142.....	2385140 pt.....
3152213010.....	2322200 pt.....	2322200 pt.....	315228W pt.....	23690 pt.....	23690 pt.....	315234W pt.....	23370 pt.....	23370 pt.....
3152213020.....	2341303.....	2341300 pt.....	315228W pt.....	23850 pt.....	23850 pt.....	315234W pt.....	23690 pt.....	23690 pt.....
3152213YVW pt...	2322200 pt.....	2322200 pt.....	315228WYWW pt...	2329000 pt.....	2329000 pt.....	315234W pt.....	23850 pt.....	23850 pt.....
3152213YVW pt...	2341300 pt.....	2341300 pt.....	315228WYWW pt...	2369000 pt.....	2369000 pt.....	315234WYVW pt...	2337000 pt.....	2337000 pt.....
3152215 pt.....	23693 pt.....	23693 pt.....	315228WYWW pt...	2385000 pt.....	2385000 pt.....	315234WYVW pt...	2369000 pt.....	2369000 pt.....
3152215 pt.....	23840 pt.....	23840 pt.....	315228WYWW pt...	2329002 pt.....	2329002 pt.....	315234WYVW pt...	2385000 pt.....	2385000 pt.....
3152215000 pt...	2369382.....	2369380 pt.....	315228WYWW pt...	2369002 pt.....	2369002 pt.....	315234WYVW pt...	2337002 pt.....	2337002 pt.....
3152215000 pt...	2384011.....	2384011.....	315228WYWW pt...	2385002 pt.....	2385002 pt.....	315234WYVW pt...	2369002 pt.....	2369002 pt.....
315221W pt.....	23220 pt.....	23220 pt.....	3152311.....	23412 pt.....	23412 pt.....	315234WYVW pt...	2385002 pt.....	2385002 pt.....
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Men's and Boys' Cut and Sew Apparel Contractors

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315211	Men's & boys' cut & sew apparel contractors	644	723	50 939	700 817	45 940	79 386	585 063	1 279 370	272 569	1 545 716	30 403
231110	Men's & boys' suits & coats (pt)	N	66	7 515	107 602	6 631	10 966	88 121	255 755	54 599	309 043	2 960
232110	Shirts, men's & boys' (pt)	N	154	10 670	141 353	9 370	16 790	113 705	240 815	31 359	271 034	4 378
232210	Men's & boys' underwear & nightwear (pt)	N	28	2 703	37 544	2 437	4 574	32 471	69 940	30 530	99 515	1 465
232510	Men's & boys' trousers & slacks (pt)	N	117	15 635	215 599	14 483	24 253	189 424	368 132	69 397	428 428	10 018
232610	Men's & boys' work clothing (pt)	N	49	2 541	31 633	2 343	3 972	25 371	51 216	7 804	59 455	2 507
232910	Men's & boys' clothing, n.e.c. (pt)	N	210	9 776	135 726	8 858	15 628	113 015	233 117	63 776	302 330	5 393
234110	Women's & children's underwear (pt)	N	-	-	-	-	-	-	-	-	-	-
238410	Robes & dressing gowns (pt) ..	N	3	D	D	D	D	D	D	D	D	D
238510	Waterproof outer garments (pt)	N	4	D	D	D	D	D	D	D	D	D
239520	Pleating & stitching (pt)	N	92	1 063	16 061	909	1 481	10 479	26 539	12 120	39 088	3 104

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315211, MEN'S & BOYS' CUT & SEW APPAREL CONTRACTORS												
United States	2	723	476	50 939	700 817	45 940	79 386	585 063	1 279 370	272 569	1 545 716	30 403
Alabama	2	25	23	3 975	49 275	3 636	5 725	42 560	99 051	18 169	116 105	1 668
Arkansas	8	14	13	1 778	24 778	1 645	2 843	22 493	47 377	3 477	50 845	813
California	2	157	90	6 026	78 399	5 604	9 887	67 136	149 414	24 683	173 917	4 212
Florida	5	27	13	1 057	10 940	993	1 610	9 378	18 950	3 003	21 466	404
Georgia	1	35	32	4 964	65 661	4 098	6 699	50 525	110 650	21 884	132 219	2 425
Hawaii *	1	7	5	304	4 482	288	574	3 818	6 934	1 118	8 055	317
Illinois	8	8	3	303	9 798	250	822	5 846	14 386	1 316	15 682	409
Louisiana	-	6	5	741	8 316	730	1 108	7 886	10 479	2 243	12 936	210
Massachusetts	-	5	4	316	5 704	295	466	4 767	7 763	895	8 642	171
Minnesota	2	6	3	141	1 891	77	131	852	2 466	437	2 933	79
Mississippi	1	21	18	3 265	42 940	2 980	5 631	37 213	67 997	23 267	88 523	2 543
New Jersey	1	20	10	864	13 727	807	1 335	10 650	27 076	1 470	28 551	458
New York	5	57	25	1 485	21 976	1 357	2 339	17 931	38 732	5 489	44 190	960
North Carolina	1	50	42	4 748	60 689	4 253	7 038	51 148	158 335	53 888	210 913	1 824
Pennsylvania	5	44	33	2 376	35 789	2 182	3 686	29 401	79 972	18 209	98 212	1 910
South Carolina	4	33	25	2 357	30 074	2 038	3 476	22 747	45 400	6 078	51 320	1 110
Tennessee	1	54	42	5 010	66 895	4 372	7 207	53 324	109 249	21 059	129 393	3 047
Texas	2	18	7	1 449	23 447	1 292	2 408	19 908	35 895	10 140	45 276	1 641
Virginia	2	19	14	2 234	32 608	2 083	3 782	29 041	51 981	25 180	79 941	1 921
Washington	-	17	15	1 219	20 128	1 164	2 259	18 366	32 364	4 464	36 821	462

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315211, MEN'S & BOYS' CUT & SEW APPAREL CONTRACTORS		315211, MEN'S & BOYS' CUT & SEW APPAREL CONTRACTORS—Con.	
Companies ¹	number.. 644	Value added	\$1,000.. 1 279 370
All establishments	number.. 723	Total inventories, beginning of year	\$1,000.. 126 040
Establishments with 1 to 19 employees	number.. 247	Finished goods inventories, beginning of year	\$1,000.. 41 678
Establishments with 20 to 99 employees	number.. 311	Work-in-process inventories, beginning of year	\$1,000.. 39 248
Establishments with 100 employees or more	number.. 165	Materials and supplies inventories, beginning of year	\$1,000.. 45 114
All employees	number.. 50 939	Total inventories, end of year	\$1,000.. 122 047
Total compensation ²	\$1,000.. 848 978	Finished goods inventories, end of year	\$1,000.. 41 577
Annual payroll	\$1,000.. 700 817	Work-in-process inventories, end of year	\$1,000.. 45 572
Total fringe benefits	\$1,000.. 148 161	Materials and supplies inventories, end of year	\$1,000.. 34 898
Production workers, average for year	number.. 45 940	Gross book value of total assets at beginning of year	\$1,000.. 410 033
Production workers on March 12	number.. 46 139	Total capital expenditures (new and used)	\$1,000.. 30 403
Production workers on May 12	number.. 46 498	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 5 991
Production workers on August 12	number.. 45 851	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 24 412
Production workers on November 12	number.. 45 272	Total retirements ²	\$1,000.. 14 916
Production-worker hours	1,000.. 79 386	Gross book value of total assets at end of year	\$1,000.. 425 520
Production-worker wages	\$1,000.. 585 063	Total depreciation during year ²	\$1,000.. 30 708
Total cost of materials	\$1,000.. 272 569	Total rental payments ²	\$1,000.. 43 696
Cost of materials, parts, containers, etc., consumed	\$1,000.. 207 097	Buildings and other structures rental payments ²	\$1,000.. 21 903
Cost of resales	\$1,000.. 8 353	Machinery and equipment rental payments ²	\$1,000.. 21 793
Cost of fuels	\$1,000.. 7 776	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 3 310
Cost of purchased electricity	\$1,000.. 22 550	Response coverage ratio ⁴	percent.. 78
Cost of contract work	\$1,000.. 26 793	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 10 818
Quantity of electricity purchased for heat and power	1,000 kWh.. 349 240	Response coverage ratio ⁴	percent.. 78
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 4 001
Total value of shipments	\$1,000.. 1 545 716	Response coverage ratio ⁴	percent.. 78
Primary products value of shipments	\$1,000.. 1 421 185	Cost of purchased legal services ³	\$1,000.. 1 868
Secondary products value of shipments	\$1,000.. 111 750	Response coverage ratio ⁴	percent.. 78
Total miscellaneous receipts	\$1,000.. 12 781	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 2 266
Value of resales	\$1,000.. 11 624	Response coverage ratio ⁴	percent.. 78
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 795
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 78
Primary products specialization ratio	percent.. 92	Cost of purchased software and other data processing services ³	\$1,000.. 1 026
Value of primary products shipments made in all industries	\$1,000.. 1 608 598	Response coverage ratio ⁴	percent.. 78
Value of primary products shipments made in this industry	\$1,000.. 1 421 185	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 142
Value of primary products shipments made in other industries	\$1,000.. 187 413	Response coverage ratio ⁴	percent.. 78
Coverage ratio	percent.. 88		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315211, MEN'S & BOYS' CUT & SEW APPAREL CONTRACTORS												
All establishments	2	723	476	50 939	700 817	45 940	79 386	585 063	1 279 370	272 569	1 545 716	30 403
Establishments with 1 to 4 employees	5	119	—	258	3 684	254	410	2 830	9 874	2 635	12 502	461
Establishments with 5 to 9 employees	4	62	—	420	6 876	354	566	4 723	16 258	4 068	20 338	663
Establishments with 10 to 19 employees	3	66	—	956	12 501	840	1 350	9 375	28 207	9 696	37 820	711
Establishments with 20 to 49 employees	3	183	183	6 023	80 163	5 441	9 094	66 457	131 028	26 736	157 907	3 722
Establishments with 50 to 99 employees	2	128	128	8 950	119 546	8 003	13 554	96 069	217 915	50 819	268 715	6 573
Establishments with 100 to 249 employees	3	131	131	20 321	273 047	18 389	32 298	227 580	483 975	89 233	569 868	8 475
Establishments with 250 to 499 employees	2	26	26	8 975	123 663	8 114	13 646	107 793	218 191	50 779	263 006	5 975
Establishments with 500 to 999 employees	2	8	8	5 036	81 337	4 545	8 468	70 236	173 922	38 603	215 560	3 823
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	170	—	1 431	16 413	1 329	1 962	13 525	30 621	3 978	34 576	1 070

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315211	Men's & boys' cut & sew apparel contractors	723	50 939	700 817	45 940	79 386	585 063	1 279 370	272 569	1 545 716	30 403
3152111	Receipts for contract and commission work on men's, junior boys', little boys', and infants' suits and tailored coats and jackets	66	7 515	107 602	6 631	10 966	88 121	255 755	54 599	309 043	2 960
3152113	Receipts for contract and commission work on men's, junior boys', little boys', and infants' shirts, except work shirts	154	10 670	141 353	9 370	16 790	113 705	240 815	31 359	271 034	4 378
3152115	Receipts for contract and commission work on men's, junior boys', little boys', and infants' underwear and nightwear	27	2 697	37 468	2 431	4 565	32 405	69 730	30 344	99 119	1 461
3152117	Receipts for contract and commission work on men's, junior boys', little boys', and infants' trousers and slacks	116	15 608	214 964	14 458	24 203	188 811	366 916	69 371	427 228	10 018
3152119	Receipts for contract and commission work on men's and junior boys' work clothing, except jeans and jean-cut casual slacks	49	2 541	31 633	2 343	3 972	25 371	51 216	7 804	59 455	2 507
315211B	Receipts for contract and commission work on men's, junior boys', little boys', and infants' outerwear, nec ..	209	9 747	135 379	8 832	15 589	112 721	232 642	63 719	301 798	5 393
315211D	Receipts for contract and commission work on men's, juniors', and little boys' robes and dressing gowns	3	854	12 131	740	1 462	9 993	22 206	2 803	25 029	565
315211F	Receipts for contract and commission work on men's, juniors', and little boys' raincoats and other waterproof outerwear	3	D	D	D	D	D	D	D	D	D
315211H	Receipts for contract & commission work on men's, juniors', and little boys' embroidering	45	864	13 894	735	1 278	9 322	22 622	11 033	34 084	2 618

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315211	Contract men's and boys' cut and sew apparel	N	X	X	1 608 598	N	X	X	N
3152111	Receipts for contract and commission work on men's, junior boys', little boys', and infants' suits and tailored coats and jackets	N	X	X	319 595	N	X	X	N
31521111	Receipts for contract and commission work on men's, junior boys', little boys', and infants' suits and tailored coats and jackets	N	X	X	319 595	N	X	X	N
3152111100	Receipts for contract and commission work on men's, junior boys', little boys', and infants' suits and tailored coats and jackets	72	X	X	319 595	97	X	X	281 160
3152113	Receipts for contract and commission work on men's, junior boys', little boys', and infants' shirts (except work shirts)	N	X	X	301 117	N	X	X	N
31521131	Receipts for contract and commission work on men's, junior boys', little boys', and infants' shirts (except work shirts)	N	X	X	301 117	N	X	X	N
3152113100	Receipts for contract and commission work on men's, junior boys', little boys', and infants' shirts (except work shirts)	160	X	X	301 117	240	X	X	599 335
3152115	Receipts for contract and commission work on men's, junior boys', little boys', and infants' underwear and nightwear	N	X	X	129 040	N	X	X	67 129
31521151	Receipts for contract and commission work on men's, junior boys', little boys', and infants' underwear and nightwear	N	X	X	129 040	N	X	X	N
3152115100	Receipts for contract and commission work on men's, junior boys', little boys', and infants' underwear and nightwear	35	X	X	129 040	22	X	X	67 129
3152117	Receipts for contract and commission work on men's, junior boys', little boys', and infants' trousers and slacks	N	X	X	441 420	N	X	X	N
31521171	Receipts for contract and commission work on men's, junior boys', little boys', and infants' trousers and slacks	N	X	X	441 420	N	X	X	N
3152117100	Receipts for contract and commission work on men's, junior boys', little boys', and infants' trousers and slacks	109	X	X	441 420	162	X	X	634 665
3152119	Receipts for contract and commission work on men's and junior boys' work clothing (except jeans and jean-cut casual slacks)	N	X	X	56 571	N	X	X	N
31521191	Receipts for contract and commission work on men's and junior boys' work clothing (except jeans and jean-cut casual slacks)	N	X	X	56 571	N	X	X	N
3152119100	Receipts for contract and commission work on men's and junior boys' work clothing (except jeans and jean-cut casual slacks)	35	X	X	56 571	38	X	X	122 976
315211B	Receipts for contract and commission work on men's, junior boys', little boys', and infants' outerwear, nec	N	X	X	293 255	N	X	X	N
315211B1	Receipts for contract and commission work on men's, junior boys', little boys', and infants' outerwear, nec	N	X	X	293 255	N	X	X	N
315211B100	Receipts for contract and commission work on men's, junior boys', little boys', and infants' outerwear, nec	203	X	X	293 255	215	X	X	478 585
315211D	Receipts for contract and commission work on men's, junior boys', and little boys' robes	N	X	X	D	N	X	X	N
315211D1	Receipts for contract and commission work on men's, junior boys', and little boys' robes	N	X	X	D	N	X	X	N
315211D100	Receipts for contract and commission work on men's, junior boys', and little boys' robes	4	X	X	D	N	X	X	N
315211F	Receipts for contract and commission work on men's, junior boys', and little boys' raincoats and other waterproof outer garments	N	X	X	D	N	X	X	N
315211F1	Receipts for contract and commission work on men's, junior boys', and little boys' raincoats and other waterproof outer garments	N	X	X	D	N	X	X	N
315211F100	Receipts for contract and commission work on men's, junior boys', and little boys' raincoats and other waterproof outer garments	2	X	X	D	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315211	Contract men's and boys' cut and sew apparel—Con.								
315211H	Receipts for contract and commission work on men's, junior boys', and little boys' embroidering (except Schiffl machine)	N	X	X	31 421	N	X	X	N
315211H1	Receipts for contract and commission work on men's, junior boys', and little boys' embroidering (except Schiffl machine), including tucking, pleating, hemstitching, and buttonholing for the trade	N	X	X	31 421	N	X	X	N
315211H100	Receipts for contract and commission work on men's, junior boys', and little boys' embroidering (except Schiffl machine), including tucking, pleating, hemstitching, and buttonholing for the trade	50	X	X	31 421	N	X	X	N
315211W	Contract men's and boys' cut and sew apparel, nsk, total	N	X	X	6 673	N	X	X	N
315211WY	Contract men's and boys' cut and sew apparel, nsk, total	N	X	X	6 673	N	X	X	N
315211WYWW	Contract men's and boys' cut and sew apparel, nsk, for nonadministrative-record establishments	N	X	X	—	N	X	X	N
315211WYWY	Contract men's and boys' cut and sew apparel, nsk, for administrative-record establishments	N	X	X	6 673	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152111	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', LITTLE BOYS', AND INFANTS' SUITS AND TAILORED COATS AND JACKETS		
	United States	319 595	N
	Alabama	28 785	N
	California	16 202	N
	Georgia	55 873	N
	Massachusetts	8 811	N
	New Jersey	8 339	N
	New York	10 556	N
	Pennsylvania	32 976	N
	Washington	2 576	N
3152113	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', LITTLE BOYS', AND INFANTS' SHIRTS (EXCEPT WORK SHIRTS)		
	United States	301 117	N
	California	24 147	N
	Florida	8 677	N
	Hawaii	5 731	N
	Mississippi	10 200	N
	New Jersey	8 916	N
	New York	4 968	N
	North Carolina	38 780	N
	Pennsylvania	13 199	N
	South Carolina	21 609	N
	Tennessee	25 513	N
	Virginia	2 979	N
3152115	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', LITTLE BOYS', AND INFANTS' UNDERWEAR AND NIGHTWEAR		
	United States	129 040	67 129
	California	3 071	N
	South Carolina	5 137	N
	Tennessee	15 709	N
	Virginia	18 209	14 656

See footnotes at end of table.

Table 6b. **Product Class Shipments for Selected States: 1997 and 1992—Con.**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152117	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', LITTLE BOYS', AND INFANTS' TROUSERS AND SLACKS		
	United States	441 420	N
	Alabama	57 276	N
	California	55 760	N
	Florida	12 007	N
	Georgia	44 575	N
	Kentucky	33 023	N
	Mississippi	28 515	N
	North Carolina	25 841	N
	Pennsylvania	29 699	N
	South Carolina	11 042	N
	Tennessee	46 577	N
	Texas	29 923	N
	3152119	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S AND JUNIOR BOYS' WORK CLOTHING (EXCEPT JEANS AND JEAN-CUT CASUAL SLACKS)	
United States		56 571	N
Florida		4 431	N
Mississippi		5 970	N
Missouri		3 793	N
Tennessee		8 812	N
315211B	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', LITTLE BOYS', AND INFANTS' OUTERWEAR, NEC		
	United States	293 255	N
	Alabama	8 820	N
	California	44 008	N
	Florida	3 019	N
	Georgia	12 769	N
	Kentucky	13 632	N
	New Jersey	2 373	N
	New York	21 851	N
	North Carolina	28 567	N
	Oregon	4 484	N
	Pennsylvania	10 514	N
	South Carolina	7 116	N
	Tennessee	14 296	N
Texas	9 541	N	
Washington	22 902	N	
315211D	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', AND LITTLE BOYS' ROBES		
United States	D	N	
315211F	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', AND LITTLE BOYS' RAINCOATS AND OTHER WATERPROOF OUTERGARMENTS		
United States	D	N	
315211H	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON MEN'S, JUNIOR BOYS', AND LITTLE BOYS' EMBROIDERING (EXCEPT SCHIFFLI MACHINE)		
	United States	31 421	N
	California	8 524	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. **Materials Consumed by Kind: 1997 and 1992**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315211	MEN'S & BOYS' CUT & SEW APPAREL CONTRACTORS				
31321023	Broadwoven fabrics (piece goods)	X	57 667	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	10 471	X	N
31324000	Knit fabrics	X	40 009	X	N
31311003	Yarn, all fibers	X	5 316	X	N
33999301	Buttons, zippers, and slide fasteners	X	11 667	X	N
31500000	Garments purchased to be printed and resold	X	1 587	X	N
32591011	Printing ink, for printing on garments	X	46	X	N
00970099	All other materials and components, parts, containers, and supplies	X	34 193	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	46 141	X	N

Table 7. Materials Consumed by Kind: 1997 and 1992—Con.

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315211 MEN'S AND BOYS' CUT AND SEW APPAREL CONTRACTORS

This U.S. industry comprises establishments commonly referred to as contractors primarily engaged in (1) cutting materials owned by others for men's and boys' apparel and/or (2) sewing materials owned by others for men's and boys' apparel.

The data published with NAICS code 315211 include the following SIC industries:

- 2311 Men's and boys' suits and coats (pt)
- 2321 Shirts, men's and boys' (pt)
- 2322 Men's and boys' underwear and nightwear (pt)
- 2325 Men's and boys' trousers and slacks (pt)
- 2326 Men's and boys' work clothing (pt)
- 2329 Men's and boys' clothing, n.e.c. (pt)

- 2341 Women's and children's underwear (pt)
- 2384 Robes and dressing gowns (pt)
- 2385 Waterproof outer garments (pt)
- 2395 Pleating and stitching (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315211 do not include establishments primarily engaged in cut and sew contract work for men's and boy's neckwear, hats, shirts, other outerwear, fur goods, dress and work gloves, leather gloves and mittens, leather and sheep-lined clothing, apparel belts, or apparel and accessories, nec. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
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315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
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3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
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3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
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			3152119100	2326900	2326900	315212B100	2342900	2342900
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3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
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3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
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31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
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			315211H100 pt	2395900 pt	2395800 pt			
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3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
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315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
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			315211WYWW pt...	2395000 pt	2395000 pt			
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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Compan-ies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315212	Women's, girls', & infants' cut & sew apparel contractors	7 061	7 135	148 870	1 900 468	133 135	219 143	1 568 394	3 243 709	850 014	4 052 201	113 762
233110	Women's blouses & waists (pt)	N	967	19 098	218 402	17 278	27 913	174 717	426 407	48 299	469 528	7 299
233510	Women's dresses (pt)	N	1 672	37 524	449 602	32 265	52 979	371 072	704 775	211 907	910 276	51 685
233710	Women's suits & coats (pt)	N	452	14 148	203 135	12 354	21 919	164 741	336 305	25 324	359 472	4 568
233910	Women's outerwear, n.e.c. (pt)	N	3 143	59 183	762 266	55 466	89 682	665 773	1 327 260	379 471	1 689 056	35 806
234120	Women's & children's underwear (pt)	N	71	3 907	61 513	3 357	6 527	48 468	98 327	12 773	108 828	1 580
234210	Brassieres & allied garments (pt)	N	48	1 533	24 863	1 300	2 429	17 753	41 895	22 431	64 966	847
236110	Girls' & children's dresses & blouses (pt)	N	146	5 114	68 780	3 950	6 262	46 098	106 530	88 158	190 338	2 220
236910	Girls' & children's outerwear, n.e.c. (pt)	N	73	4 395	57 783	3 770	6 088	44 323	118 707	29 721	143 132	2 836
238420	Robes & dressing gowns (pt)	N	9	222	2 644	201	329	2 282	4 667	1 423	5 973	24
238520	Waterproof outer garments (pt)	N	5	41	331	39	38	278	1 510	92	1 538	26
238910	Apparel & accessories, n.e.c. (pt)	N	19	750	10 708	628	1 083	7 769	11 263	6 200	18 489	342
239530	Pleating & stitching (pt)	N	530	2 955	40 441	2 527	3 894	25 120	66 063	24 215	90 605	6 529

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufac-ture (\$1,000)	Cost of materials (\$1,000)	Value of ship-ments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
315212, WOMEN'S, GIRLS', & INFANTS' CUT & SEW APPAREL CONTRACTORS												
United States	5	7 135	2 013	148 870	1 900 468	133 135	219 143	1 568 394	3 243 709	850 014	4 052 201	113 762
Alabama	4	64	31	3 083	41 080	2 220	3 930	28 256	77 721	17 331	94 818	1 675
Arizona	7	24	4	258	3 082	235	369	2 520	4 600	1 285	5 854	267
Arkansas	1	8	2	460	5 340	440	792	4 227	1 973	1 351	3 302	68
California	5	2 937	779	52 433	585 033	48 965	75 816	511 504	993 781	287 020	1 268 691	37 819
Colorado	3	30	1	185	2 792	173	332	2 329	4 511	1 093	5 570	138
Connecticut	7	19	6	365	6 197	332	709	5 360	9 183	2 630	11 710	266
Florida	3	247	67	4 621	57 714	4 237	6 906	48 567	117 650	49 232	164 900	4 278
Georgia	2	73	26	2 718	33 946	2 207	3 919	25 749	54 619	16 784	70 873	1 515
Hawaii *	6	25	2	195	3 060	182	340	2 472	4 772	1 162	5 833	209
Illinois	8	70	15	2 035	27 551	1 820	3 210	23 813	44 986	12 214	56 666	3 183
Indiana	4	23	1	143	2 173	126	207	1 480	2 940	1 356	4 287	108
Maryland	2	19	3	317	3 865	301	537	3 401	5 879	538	6 439	181
Massachusetts	5	90	36	2 479	37 362	2 317	3 984	31 686	55 460	10 367	65 840	1 303
Michigan	6	31	2	172	2 035	149	267	1 663	3 250	1 228	4 464	247
Minnesota	6	33	3	311	4 194	292	521	3 547	6 400	2 029	8 487	281
Missouri	6	32	3	298	3 903	276	489	3 060	6 054	937	6 995	467
New Hampshire	-	11	4	360	4 966	326	569	3 995	6 513	723	7 251	102
New Jersey	4	244	93	6 828	102 706	5 888	10 941	81 048	174 875	31 006	205 519	4 749
New York	7	2 015	527	35 367	464 409	30 031	48 689	363 308	733 631	235 320	959 838	30 801
North Carolina	2	94	51	3 989	52 100	3 559	5 533	42 080	91 536	20 111	109 737	2 213
Ohio	1	38	5	410	6 038	364	583	4 812	31 760	3 273	32 531	217
Oklahoma	4	19	8	1 059	14 620	950	1 726	12 032	24 909	2 483	27 796	415
Pennsylvania	5	293	131	9 920	154 516	9 094	16 725	132 973	246 101	57 104	302 285	9 199
South Carolina	3	70	50	4 160	55 406	3 503	6 223	40 436	79 216	13 326	91 534	2 721
Tennessee	3	67	31	2 282	25 658	2 027	3 176	20 702	53 958	8 915	62 411	828
Texas	6	262	45	4 284	60 235	4 026	6 716	52 811	110 175	22 625	126 619	3 303
Virginia	1	63	33	4 365	59 479	3 881	7 210	48 951	178 587	18 230	196 376	3 103
Washington	5	45	6	640	9 502	606	1 053	8 116	16 387	4 571	20 881	495

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315212, WOMEN'S, GIRLS', & INFANTS' CUT & SEW APPAREL CONTRACTORS		315212, WOMEN'S, GIRLS', & INFANTS' CUT & SEW APPAREL CONTRACTORS— Con.	
Companies ¹	number.. 7 061	Value added	\$1,000.. 3 243 709
All establishments	number.. 7 135	Total inventories, beginning of year	\$1,000.. 418 597
Establishments with 1 to 19 employees	number.. 5 122	Finished goods inventories, beginning of year	\$1,000.. 69 563
Establishments with 20 to 99 employees	number.. 1 790	Work-in-process inventories, beginning of year	\$1,000.. 42 227
Establishments with 100 employees or more	number.. 223	Materials and supplies inventories, beginning of year	\$1,000.. 306 807
All employees	number.. 148 870	Total inventories, end of year	\$1,000.. 416 443
Total compensation ²	\$1,000.. 2 202 420	Finished goods inventories, end of year	\$1,000.. 91 811
Annual payroll	\$1,000.. 1 900 468	Work-in-process inventories, end of year	\$1,000.. 61 501
Total fringe benefits	\$1,000.. 301 952	Materials and supplies inventories, end of year	\$1,000.. 263 131
Production workers, average for year	number.. 133 135	Gross book value of total assets at beginning of year	\$1,000.. 641 759
Production workers on March 12	number.. 133 284	Total capital expenditures (new and used)	\$1,000.. 113 762
Production workers on May 12	number.. 133 336	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 27 340
Production workers on August 12	number.. 133 209	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 86 422
Production workers on November 12	number.. 132 631	Total retirements ²	\$1,000.. 26 948
Production-worker hours	1,000.. 219 143	Gross book value of total assets at end of year	\$1,000.. 728 573
Production-worker wages	\$1,000.. 1 568 394	Total depreciation during year ²	\$1,000.. 77 232
Total cost of materials	\$1,000.. 850 014	Total rental payments ²	\$1,000.. 140 501
Cost of materials, parts, containers, etc., consumed	\$1,000.. 416 014	Buildings and other structures rental payments ²	\$1,000.. 67 883
Cost of resales	\$1,000.. 54 111	Machinery and equipment rental payments ²	\$1,000.. 72 618
Cost of fuels	\$1,000.. 56 194	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. S
Cost of purchased electricity	\$1,000.. 141 218	Response coverage ratio ⁴	percent.. S
Cost of contract work	\$1,000.. 182 477	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. S
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 684 945	Response coverage ratio ⁴	percent.. S
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. S
Total value of shipments	\$1,000.. 4 052 201	Response coverage ratio ⁴	percent.. S
Primary products value of shipments	\$1,000.. 3 630 553	Cost of purchased legal services ³	\$1,000.. S
Secondary products value of shipments	\$1,000.. 347 776	Response coverage ratio ⁴	percent.. S
Total miscellaneous receipts	\$1,000.. 73 872	Cost of purchased accounting and bookkeeping services ³	\$1,000.. S
Value of resales	\$1,000.. 69 707	Response coverage ratio ⁴	percent.. S
Contract receipts	\$1,000.. 2 935	Cost of purchased advertising services ³	\$1,000.. S
Other miscellaneous receipts	\$1,000.. 1 230	Response coverage ratio ⁴	percent.. S
Primary products specialization ratio	percent.. 91	Cost of purchased software and other data processing services ³	\$1,000.. S
Value of primary products shipments made in all industries	\$1,000.. 4 043 250	Response coverage ratio ⁴	percent.. S
Value of primary products shipments made in this industry	\$1,000.. 3 630 553	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. S
Value of primary products shipments made in other industries	\$1,000.. 412 697	Response coverage ratio ⁴	percent.. S
Coverage ratio	percent.. 89	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. S
		Response coverage ratio ⁴	percent.. S

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315212, WOMEN'S, GIRLS', & INFANTS' CUT & SEW APPAREL CONTRACTORS												
All establishments	5	7 135	2 013	148 870	1 900 468	133 135	219 143	1 568 394	3 243 709	850 014	4 052 201	113 762
Establishments with 1 to 4 employees	8	2 350	—	5 176	70 381	4 912	8 210	57 887	126 984	32 525	159 481	6 220
Establishments with 5 to 9 employees	8	1 436	—	9 602	119 149	8 971	14 372	101 983	208 414	56 851	264 074	9 392
Establishments with 10 to 19 employees	6	1 336	—	18 285	207 162	16 865	25 799	178 136	359 387	105 788	462 891	13 844
Establishments with 20 to 49 employees	5	1 333	1 333	41 073	472 437	37 723	58 362	400 026	855 139	210 364	1 056 129	25 969
Establishments with 50 to 99 employees	4	457	457	30 404	382 036	27 400	45 174	315 288	617 334	177 340	788 513	19 065
Establishments with 100 to 249 employees	4	182	182	27 009	385 332	22 945	42 376	305 686	702 947	182 853	868 604	19 836
Establishments with 250 to 499 employees	4	33	33	11 112	149 234	8 544	15 772	108 693	217 197	41 791	257 245	8 799
Establishments with 500 to 999 employees	6	7	7	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	9	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	2 288	—	15 034	159 555	14 066	21 640	136 700	255 530	60 965	314 780	12 794

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315212	Women's, girls', & infants' cut & sew apparel contractors	7 135	148 870	1 900 468	133 135	219 143	1 568 394	3 243 709	850 014	4 052 201	113 762
3152121	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' shirts and blouses	966	18 829	215 329	17 091	27 603	172 909	418 351	47 660	460 877	7 491
3152123	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' dresses	1 815	42 653	518 279	36 220	59 229	416 873	815 304	296 898	1 101 767	53 876
3152125	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' coats, suits, skirts, and jackets	449	13 925	199 865	12 199	21 614	162 612	329 165	24 440	351 502	4 328
3152127	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' outerwear, nec ..	3 216	63 887	824 378	59 483	96 285	713 198	1 454 298	409 426	1 840 724	38 616
3152129	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' underwear and nightwear	71	3 907	61 513	3 357	6 527	48 468	98 327	12 773	108 828	1 580
315212B	Receipts for contract and commission work on brassieres, corsets, and allied garments	48	1 533	24 863	1 300	2 429	17 753	41 895	22 431	64 966	847
315212D	Receipts for contract and commission work on women's, misses', juniors', and girls' robes and dressing gowns	9	222	2 644	201	329	2 282	4 667	1 423	5 973	24
315212F	Receipts for contract and commission work on women's, misses', juniors', and girls' raincoats and other waterproof outer garments	2	D	D	D	D	D	D	D	D	D
315212H	Receipts for contract and commission work on women's, misses', juniors', and girls' embroidering	65	1 326	21 791	1 172	2 114	14 852	33 345	14 154	47 826	2 597
315212J	Receipts for contract and commission work on handkerchiefs, garters, garter belts, academic caps and gowns, costumes, ecclesiastical vestments, etc.	19	750	10 708	628	1 083	7 769	11 263	6 200	18 489	342

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315212	Contract women's and girls' cut and sew apparel	N	X	X	4 043 250	N	X	X	N
3152121	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' shirts and blouses	N	X	X	510 835	N	X	X	N
31521211	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' shirts and blouses	N	X	X	510 835	N	X	X	N
3152121100	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' shirts and blouses	741	X	X	510 835	734	X	X	708 130
3152123	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' dresses	N	X	X	1 061 309	N	X	X	N
31521231	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' dresses	N	X	X	1 061 309	N	X	X	N
3152123100	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' dresses	1 366	X	X	1 061 309	N	X	X	N
3152125	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' coats, suits, skirts, and jackets	N	X	X	373 716	N	X	X	N
31521251	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' coats, suits, skirts, and jackets	N	X	X	373 716	N	X	X	N
3152125100	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' coats, suits, skirts, and jackets	379	X	X	373 716	539	X	X	551 835
3152127	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' outerwear, nec	N	X	X	1 788 970	N	X	X	N
31521271	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' outerwear, nec	N	X	X	1 788 970	N	X	X	N
3152127100	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' outerwear, nec	2 138	X	X	1 788 970	N	X	X	N
3152129	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' underwear and nightwear	N	X	X	114 676	N	X	X	N
31521291	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' underwear and nightwear	N	X	X	114 676	N	X	X	N
3152129100	Receipts for contract and commission work on women's, misses', juniors', girls', and infants' underwear and nightwear	74	X	X	114 676	N	X	X	N
315212B	Receipts for contract and commission work on brassieres, corsets, and allied garments	N	X	X	64 342	N	X	X	22 557
315212B1	Receipts for contract and commission work on brassieres, corsets, and allied garments	N	X	X	64 342	N	X	X	N
315212B100	Receipts for contract and commission work on brassieres, corsets, and allied garments	40	X	X	64 342	9	X	X	22 557
315212D	Receipts for contract and commission work on women's, misses', juniors', and girls' robes and dressing gowns	N	X	X	D	N	X	X	N
315212D1	Receipts for contract and commission work on women's, misses', juniors', and girls' robes and dressing gowns	N	X	X	D	N	X	X	N
315212D100	Receipts for contract and commission work on women's, misses', juniors', and girls' robes and dressing gowns	13	X	X	D	N	X	X	N
315212F	Receipts for contract and commission work on women's, misses', juniors', and girls' raincoats and other waterproof outer garments	N	X	X	D	N	X	X	N
315212F1	Receipts for contract and commission work on women's, misses', juniors', and girls' raincoats and other waterproof outer garments	N	X	X	D	N	X	X	N
315212F100	Receipts for contract and commission work on women's, misses', juniors', and girls' raincoats and other waterproof outer garments	3	X	X	D	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315212	Contract women's and girls' cut and sew apparel—Con.								
315212H	Receipts for contract and commission work on women's, misses', juniors', and girls' embroidering (except Schiffl machine)	N	X	X	51 876	N	X	X	N
315212H1	Receipts for contract and commission work on women's, misses', juniors', and girls' embroidering (except Schiffl machine), including tucking, pleating, hemstitching and buttonholing for the trade	N	X	X	51 876	N	X	X	N
315212H100	Receipts for contract and commission work on women's, misses', juniors', and girls' embroidering (except Schiffl machine), including tucking, pleating, hemstitching and buttonholing for the trade	75	X	X	51 876	N	X	X	N
315212J	Receipts for contract and commission work on handkerchiefs, garters, garter belts, academic caps and gowns, costumes, and ecclesiastical vestments	N	X	X	18 851	N	X	X	N
315212J1	Receipts for contract and commission work on handkerchiefs, garters, garter belts, academic caps and gowns, costumes, and ecclesiastical vestments	N	X	X	18 851	N	X	X	N
315212J100	Receipts for contract and commission work on handkerchiefs, garters, garter belts, academic caps and gowns, costumes, and ecclesiastical vestments	21	X	X	18 851	N	X	X	N
315212W	Contract women's and girls' cut and sew apparel, nsk, total	N	X	X	42 201	N	X	X	N
315212WY	Contract women's and girls' cut and sew apparel, nsk, total	N	X	X	42 201	N	X	X	N
315212WYWW	Contract women's and girls' cut and sew apparel, nsk, for nonadministrative-record establishments	N	X	X	-	N	X	X	N
315212WYWY	Contract women's and girls' cut and sew apparel, nsk, for administrative-record establishments	N	X	X	42 201	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152121	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', GIRLS', AND INFANTS' SHIRTS AND BLOUSES		
	United States	510 835	N
	Alabama	28 155	N
	California	170 051	N
	Florida	49 821	N
	Georgia	10 365	N
	Hawaii	2 266	N
	Illinois	2 154	N
	Massachusetts	2 121	N
	New Jersey	20 315	N
	New York	84 111	N
	North Carolina	13 001	N
	Pennsylvania	37 697	N
	South Carolina	20 563	N
	Tennessee	6 911	N
	Texas	7 772	N
Virginia	34 464	N	
3152123	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', GIRLS', AND INFANTS' DRESSES		
	United States	1 061 309	N
	Alabama	18 423	N
	Arizona	2 661	N
	California	357 464	N
	Connecticut	2 008	N
	Florida	35 030	N
	Georgia	12 956	N
	Hawaii	3 677	N
	Illinois	41 263	N
	Massachusetts	14 190	N
	Michigan	2 450	N
	New Jersey	34 120	N
	New York	359 022	N
	North Carolina	20 243	N
	Pennsylvania	79 629	N
South Carolina	22 562	N	
Tennessee	6 507	N	
Texas	8 612	N	
Virginia	20 462	N	
West Virginia	2 645	N	
3152125	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', GIRLS', AND INFANTS' COATS, SUITS, SKIRTS, AND JACKETS		
	United States	373 716	N
	Alabama	10 325	N
	California	54 212	N
	Florida	12 125	N
	Illinois	3 349	N
	Massachusetts	20 614	N
	New Hampshire	3 252	N
	New Jersey	93 026	N
	New York	71 386	N
	North Carolina	11 903	N
	Pennsylvania	41 290	N
	South Carolina	3 556	N
	Tennessee	23 556	N
	Texas	7 748	N
	3152127	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', GIRLS', AND INFANTS' OUTERWEAR, NEC	
United States		1 788 970	N
Alabama		29 460	N
California		637 222	N
Colorado		2 291	N
Connecticut		2 392	N
Florida		45 328	N
Georgia		31 889	N
Illinois		10 945	N
Kentucky		29 555	N
Massachusetts		24 173	N
Minnesota		4 245	N
Mississippi		25 693	N
New Hampshire		3 222	N
New Jersey		46 127	N
New York		375 463	N
North Carolina	35 532	N	
Oklahoma	5 335	N	
Oregon	11 717	N	
Pennsylvania	105 277	N	
South Carolina	43 402	N	
Tennessee	24 009	N	
Texas	94 580	N	
Virginia	130 840	N	
Washington	19 952	N	
West Virginia	2 238	N	

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152129	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', GIRLS', AND INFANTS' UNDERWEAR AND NIGHTWEAR		
	United States	114 676	N
	California	7 064	N
	New Jersey	3 114	N
	New York	15 398	N
	Pennsylvania	21 286	N
	Tennessee	3 266	N
	Texas	2 074	N
Virginia	5 306	N	
315212B	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON BRASSIERES, CORSETS, AND ALLIED GARMENTS		
	United States	64 342	22 557
	California	8 603	N
	New York	25 864	N
Tennessee	6 540	N	
315212D	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', AND GIRLS' ROBES AND DRESSING GOWNS		
	United States	D	N
315212F	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', AND GIRLS' RAINCOATS AND OTHER WATERPROOF OUTERGARMENTS		
	United States	D	N
315212H	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON WOMEN'S, MISSES', JUNIORS', AND GIRLS' EMBROIDERING (EXCEPT SCHIFFLI MACHINE)		
	United States	51 876	N
	California	9 915	N
	Georgia	5 573	N
	New York	5 761	N
	North Carolina	4 388	N
	Pennsylvania	5 399	N
315212J	RECEIPTS FOR CONTRACT AND COMMISSION WORK ON HANDKERCHIEFS, GARTERS, GARTER BELTS, ACADEMIC CAPS AND GOWNS, COSTUMES, AND ECCLESIASTICAL VESTMENTS		
	United States	18 851	N
	California	2 003	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315212	WOMEN'S, GIRLS', & INFANTS' CUT & SEW APPAREL CONTRACTORS				
31321023	Broadwoven fabrics (piece goods)	X	45 978	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	5 299	X	N
31324000	Knit fabrics	X	45 121	X	N
31311003	Yarn, all fibers	X	10 703	X	N
33999301	Buttons, zippers, and slide fasteners	X	7 823	X	N
31500000	Garments purchased to be printed and resold	X	1 006	X	N
32591011	Printing ink, for printing on garments	X	223	X	N
00970099	All other materials and components, parts, containers, and supplies	X	33 707	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	266 154	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; a 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315212 WOMEN'S, GIRLS', AND INFANTS' CUT AND SEW APPAREL CONTRACTORS

This U.S. industry comprises establishments commonly referred to as contractors primarily engaged in (1) cutting materials owned by others for women's, girls', and infants' apparel and accessories and/or (2) sewing materials owned by others for women's, girls', and infants' apparel and accessories.

The data published with NAICS code 315212 include the following SIC industries:

- 2331 Women's blouses and waists (pt)
- 2335 Women's dresses (pt)
- 2337 Women's suits and coats (pt)
- 2339 Women's outerwear, n.e.c. (pt)
- 2341 Women's and children's underwear (pt)
- 2342 Brassieres and allied garments (pt)

- 2361 Girls' and children's dresses and blouses (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2384 Robes and dressing gowns (pt)
- 2385 Waterproof outer garments (pt)
- 2389 Apparel and accessories, n.e.c. (pt)
- 2395 Pleating and stitching (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315212 do not include establishments primarily engaged in cut and sew contract work for women's, girls', and infants' hats; fur goods; dress and work gloves; leather gloves and mittens; leather and sheep-lined clothing; or apparel belts. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
315111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2325902	2325902
3151111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVW pt	2251400	2251400	3151921YVW	2254100	2254100	315211WYWW pt ...	2326902	2326902
3151111YVW pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113111	2251612	2251612	3151923120	2254413	2254413	315211WYWW pt ...	2331002 pt	2331002 pt
3151113221	2251614	2251614	3151923YVW	2254400	2254400	315211WYWW pt ...	2334002 pt	2334002 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	315211WYWW pt ...	2335002 pt	2335002 pt
3151113341	2251615	2251615	3151927110	2259030	2259030	315211WYWW pt ...	2335002 pt	2335002 pt
3151113351	2251617	2251617	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113391	2251620	2251619	3151927YVW	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151113YVW	2251600	2251600	315192W pt	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115	22518	22518	315192W pt	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115121	2251814	2251814	315192WYVW pt...	2254000	2254000	3152123100 pt	2335900	2335900
3151115131	2251817	2251817	315192WYVW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
3151115YVW	2251800	2251800	315192WYVW pt...	2254002	2254002	3152125	23379 pt	23379 pt
315111W pt.....	22510	22510	315192WYVW pt...	2259002 pt	2259002 pt	3152125100	2337900	2337900
315111W pt.....	22520 pt	22520 pt	3152111	23119 pt	23119 pt	3152127 pt.....	23399 pt	23399 pt
315111WYVW pt...	2251000	2251000	3152111100	2311900	2311900	3152127 pt.....	23699 pt	23699 pt
315111WYVW pt...	2252000 pt	2252000 pt	31521113100	2321900	2321900	3152127100 pt	2339900	2339900
315111WYVW pt	2251002	2251002	31521115	23229	23229	3152127100 pt	2369900	2369900
315111WYVW pt	2252002 pt	2252002 pt	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191	22522	22522	3152117	23259 pt	23259 pt	3152129100 pt	2341901	2341900 pt
3151191111	2252223	2252223	3152117100	2325900	2325900	3152129100 pt	2341903	2341900 pt
3151191221	2252225	2252225	3152119	23269 pt	23269 pt	3152129100 pt	2341900	2341900 pt
3151191331	2252233	2252233	3152119100	2326900	2326900	315212B	23429	23429
3151191441	2252235	2252235	315211B	23299 pt	23299 pt	315212B100	2342900	2342900
3151191551	2252243	2252243	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151191561	2252245	2252245	315211D	23849 pt	93000 pt	315212D100 pt	2384995	9300000 pt
3151191591	2252287	2252287	315211D100 pt	2384994	9300000 pt	315212D100 pt	2384900 pt	9300000 pt
3151191YVW	2252200	2252200	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193	22525 pt	22525 pt	315211F	23859 pt	23859 pt	315212F100 pt	2385920	2385900 pt
3151193111	2252516	2252515	315211F100 pt	2385910	2385900 pt	315212F100 pt	2385900 pt	2385900 pt
3151193121	2252501	2252501	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
3151193131	2252503	2252503	315211H	23959 pt	23958 pt	315212H100 pt	2395900 pt	2395800 pt
3151193241	2252521	2252521	315211H100 pt	2395900 pt	2395800 pt	315212H100 pt	2395994	2395833
3151193251	2252527	2252527	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151193261	2252533	2252531	315211W pt	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151193371	2252551	2252551	315211W pt	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151193381	2252557	2252557	315211W pt	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
3151193391	2252561	2252561	315211W pt	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
31511933B1	2252588	2252581	315211W pt	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
3151193YVW	2252500 pt	2252500 pt	315211W pt	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
3151195	22526	22526	315211W pt	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
3151195111	2252625	2252625	315211W pt	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151195121	2252642	2252642	315211W pt	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151195131	2252651	2252651	315211W pt	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
3151195YVW	2252600	2252600	315211W pt	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
315119W	22520 pt	22520 pt	315211W pt	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
315119WYVW	2252000 pt	2252000 pt	315211W pt	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
315119WYVW	2252002 pt	2252002 pt	315211W pt	23850 pt	23850 pt	315212W pt.....	23610 pt	23610 pt
3151911	22534	22534	315211W pt	23950 pt	23950 pt	315212W pt.....	23619 pt	23619 pt
3151911100	2253400	2253400	315211WYVW pt...	2310000 pt	2310000 pt	315212W pt.....	23690 pt	23690 pt
3151913	22535	22535	315211WYVW pt...	2321000 pt	2321000 pt	315212W pt.....	23699 pt	23699 pt
3151913100	2253500	2253500	315211WYVW pt...	2322000 pt	2322000 pt	315212W pt.....	23840 pt	23840 pt
3151915	22536	22536	315211WYVW pt...	2325000 pt	2325000 pt	315212W pt.....	23850 pt	23850 pt
3151915100	2253600	2253600	315211WYVW pt...	2326000 pt	2326000 pt	315212W pt.....	23850 pt	23850 pt
3151917	2253A	2253A	315211WYVW pt...	2329000 pt	2329000 pt	315212W pt.....	23890 pt	23890 pt
3151917100	2253A00	2253A00	315211WYVW pt...	2331000 pt	2331000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYVW pt...	2332000 pt	2332000 pt	315212W pt.....	23950 pt	23950 pt
3151919100	2253B00	2253B00	315211WYVW pt...	2335000 pt	2335000 pt	315212W pt.....	2395000 pt	2395000 pt
315191A	2253C	2253C	315211WYVW pt...	2339000 pt	2339000 pt	315212W pt.....	2395000 pt	2395000 pt
315191A100	2253C00	2253C00	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C	2253D	2253D	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C110	2253D01	2253D01	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C120	2253D05	2253D05	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C130	2253D09	2253D09	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191CYVW	2253D00	2253D00	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191E	2253E	2253E	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191E100	2253E00	2253E00	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191EYVW	2253E02	2253E02	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191G	22590 pt	22590 pt	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191G100	2259020	2259020	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191W pt.....	22530	22530	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
315221 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
3152221 pt.	23115 pt.	23115 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23693 pt.	23693 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152225 pt.	23117 pt.	23117 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152317YV pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319 pt.	23693 pt.	23693 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	23840 pt.	23840 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23690 pt.	23690 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	3152910 pt.	23410 pt.	23410 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	3152910 pt.	23412 pt.	23412 pt.
3152231010 pt.	2321300 pt.	2321300 pt.	315231WYV pt.	2341002 pt.	234100			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3152910 pt.....	23693 pt.....	23693 pt	315299W pt.....	23390 pt.....	23390 pt	3159995.....	23871.....	23871
3152910 pt.....	23850 pt.....	23850 pt	315299W pt.....	23890 pt.....	23890 pt	3159995111.....	2387113.....	2387113
3152910 pt.....	23851 pt.....	23851 pt	315299WYWW pt...	2329000 pt.....	2329000 pt	3159995121.....	2387115.....	2387115
3152910110.....	2341204.....	2341200 pt	315299WYWW pt...	2339000 pt.....	2339000 pt	3159995131.....	2387153.....	2387153
3152910120.....	2341304.....	2341300 pt	315299WYWW pt...	2389000 pt.....	2389000 pt	3159995141.....	2387155.....	2387155
3152910230.....	2361303.....	2361300 pt	315299WYWW pt...	2329002 pt.....	2329002 pt	3159995YVW.....	2387100.....	2387100
3152910240.....	2361403.....	2361400 pt	315299WYWW pt...	2339002 pt.....	2339002 pt	3159997.....	23872.....	23872
3152910250.....	2361502.....	2361500 pt	315299WYWW pt...	2389002 pt.....	2389002 pt	3159997111.....	2387213.....	2387213
3152910260.....	2369203.....	2369200 pt	3159911.....	23531.....	23531	3159997121.....	2387215.....	2387215
3152910270.....	2369343.....	2369340 pt	3159911111.....	2353101.....	2353101	3159997131.....	2387253.....	2387253
31529102A0.....	2369373.....	2369370 pt	3159911121.....	2353103.....	2353103	3159997141.....	2387255.....	2387255
31529102C0 pt.....	2369396.....	2369393 pt	3159911131.....	2353105.....	2353105	3159997YVW.....	2387200.....	2387200
31529102C0 pt.....	2385171.....	2385171	3159911141.....	2353109.....	2353109	315999A.....	23890 pt.....	23890 pt
3152910YVW pt...	2341000 pt.....	2341000 pt	3159911YVW.....	2353100.....	2353100	315999A111.....	2389045.....	2389031 pt
3152910YVW pt...	2341200 pt.....	2341200 pt	3159913.....	23532.....	23532	315999A221.....	2389053.....	2389053
3152910YVW pt...	2341300 pt.....	2341300 pt	3159913111.....	2353201.....	2353201	315999A231.....	2389057.....	2389057
3152910YVW pt...	2361000 pt.....	2361000 pt	3159913121.....	2353203.....	2353203	315999AYVW.....	2389000 pt.....	2389000 pt
3152910YVW pt...	2361300 pt.....	2361300 pt	3159913131.....	2353205.....	2353205	315999C pt.....	23961.....	23961
3152910YVW pt...	2361400 pt.....	2361400 pt	3159913141.....	2353209.....	2353209	315999C111 pt.....	2396111.....	2396111
3152910YVW pt...	2361500 pt.....	2361500 pt	3159913YVW.....	2353200.....	2353200	315999C111 pt.....	2399091.....	2399098 pt
3152910YVW pt...	2369000 pt.....	2369000 pt	3159915.....	23533.....	23533	315999C121.....	2396153.....	2396153
3152910YVW pt...	2369200 pt.....	2369200 pt	3159915111.....	2353301.....	2353301	315999CVVW pt...	2396100.....	2396100
3152910YVW pt...	2369300 pt.....	2369300 pt	3159915121.....	2353303.....	2353303	315999CVVW pt...	2399000 pt.....	2399000 pt
3152910YVW pt...	2385000 pt.....	2385000 pt	3159915131.....	2353309.....	2353309	315999E.....	23963 pt.....	23963 pt
3152910YVW pt...	2385100 pt.....	2385100 pt	3159915YVW.....	2353300.....	2353300	315999E100.....	2396313.....	2396311
3152910YVW pt...	2341002 pt.....	2341002 pt	315991W.....	23530.....	23530	315999G.....	56990 pt.....	56990 pt
3152910YVW pt...	2361002 pt.....	2361002 pt	315991WYWW.....	2353000.....	2353000	315999G100 pt.....	5699010.....	5699000 pt
3152910YVW pt...	2369002 pt.....	2369002 pt	315991WYVW.....	2353002.....	2353002	315999G100 pt.....	5699020.....	5699000 pt
3152910YVW pt...	2385002 pt.....	2385002 pt	3159921.....	23813.....	23813	315999W pt.....	23390 pt.....	23390 pt
3152921.....	23710 pt.....	23710 pt	3159921000.....	2381300.....	2381300	315999W pt.....	23850 pt.....	23850 pt
3152921100.....	2371000 pt.....	2371000 pt	3159923.....	23814.....	23814	315999W pt.....	23870.....	23870
3152925.....	23860 pt.....	23860 pt	3159923000.....	2381400.....	2381400	315999W pt.....	23890 pt.....	23890 pt
3152925111.....	2386015.....	2386015	3159925.....	31510 pt.....	31510 pt	315999W pt.....	23960 pt.....	23960 pt
3152925221.....	2386053.....	2386053	3159925000.....	3151000 pt.....	3151000 pt	315999W pt.....	23990 pt.....	23990 pt
3152925231.....	2386098.....	2386098	315992W pt.....	23810.....	23810	315999W pt.....	23990 pt.....	23990 pt
3152925YVW.....	2386000 pt.....	2386000 pt	315992W pt.....	31510 pt.....	31510 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23710 pt.....	23710 pt	315992W pt.....	3151000.....	3151000	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	56990 pt.....	56990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2339000 pt.....	2339000 pt
315292WYVW pt...	2386000 pt.....	2386000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2385000 pt.....	2385000 pt
315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2387000.....	2387000
315292WYVW pt...	2386002.....	2386002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2389000 pt.....	2389000 pt
3152991.....	23293 pt.....	23293 pt	3159930.....	23230.....	23230	315999WYVW pt...	2396000 pt.....	2396000 pt
3152991100.....	2329330.....	2329330	3159930111.....	2323021.....	2323021	315999WYVW pt...	2399000 pt.....	2399000 pt
3152993.....	23397 pt.....	23397 pt	3159930121.....	2323027.....	2323027	315999WYVW pt...	2399000 pt.....	2399000 pt
3152993100.....	2339720.....	2339720	3159930231.....	2323028.....	2323028	315999WYVW pt...	2399000 pt.....	2399000 pt
3152995.....	23890 pt.....	23890 pt	3159930241.....	2323049.....	2323049	315999WYVW pt...	2399000 pt.....	2399000 pt
3152995111.....	2389081.....	2389081	3159930YVW.....	2323000.....	2323000	315999WYVW pt...	2399000 pt.....	2399000 pt
3152995121.....	2389091.....	2389091	3159930YVW.....	2323002.....	2323002	315999WYVW pt...	2339002 pt.....	2339002 pt
3152995131.....	2389098.....	2389098	3159991.....	23397 pt.....	23397 pt	315999WYVW pt...	2385002 pt.....	2385002 pt
3152995YVW.....	2389000 pt.....	2389000 pt	3159991100.....	2339770.....	2339770	315999WYVW pt...	2387002.....	2387002
315299W pt.....	23290 pt.....	23290 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt...	2389002 pt.....	2389002 pt
			3159993100.....	2385190.....	2385198 pt	315999WYVW pt...	2396002 pt.....	2396002 pt
						315999WYVW pt...	2399002 pt.....	2399002 pt
						315999WYVW pt...	5699002.....	5699000 pt

Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing

1997

Issued November 1999

EC97M-3152C

1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315221	Men's & boys' cut & sew underwear & nightwear mfg ...	63	75	9 491	158 917	8 534	15 513	129 747	764 567	566 046	1 325 367	7 813
232220	Men's & boys' underwear & nightwear (pt)	N	66	7 673	128 169	6 837	12 543	102 780	492 948	480 204	980 449	7 407
234130	Women's & children's underwear (pt)	N	3	D	D	D	D	D	D	D	D	D
236920	Girls' & children's outerwear, n.e.c. (pt)	N	-	-	-	-	-	-	-	-	-	-
238430	Robes & dressing gowns (pt) ..	N	6	D	D	D	D	D	D	D	D	D

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315221, MEN'S & BOYS' CUT & SEW UNDERWEAR & NIGHTWEAR MFG												
United States	1	75	51	9 491	158 917	8 534	15 513	129 747	764 567	566 046	1 325 367	7 813
California	2	10	3	225	3 173	206	332	2 418	5 692	3 271	8 562	40
New York	9	4	3	203	2 878	84	166	1 225	7 151	5 953	13 102	161
Tennessee	-	7	6	1 726	29 911	1 528	3 035	23 420	79 849	76 173	154 686	2 229
Virginia	9	6	3	519	10 952	487	1 088	9 461	35 100	31 196	66 460	1 220

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315221, MEN'S & BOYS' CUT & SEW UNDERWEAR & NIGHTWEAR MFG		315221, MEN'S & BOYS' CUT & SEW UNDERWEAR & NIGHTWEAR MFG—Con.	
Companies ¹	number.. 63	Value added	\$1,000.. 764 567
All establishments	number.. 75	Total inventories, beginning of year	\$1,000.. 112 057
Establishments with 1 to 19 employees	number.. 24	Finished goods inventories, beginning of year	\$1,000.. 55 438
Establishments with 20 to 99 employees	number.. 26	Work-in-process inventories, beginning of year	\$1,000.. 27 198
Establishments with 100 employees or more	number.. 25	Materials and supplies inventories, beginning of year	\$1,000.. 29 421
All employees	number.. 9 491	Total inventories, end of year	\$1,000.. 114 780
Total compensation ²	\$1,000.. 203 731	Finished goods inventories, end of year	\$1,000.. 60 730
Annual payroll	\$1,000.. 158 917	Work-in-process inventories, end of year	\$1,000.. 27 152
Total fringe benefits	\$1,000.. 44 814	Materials and supplies inventories, end of year	\$1,000.. 26 898
Production workers, average for year	number.. 8 534	Gross book value of total assets at beginning of year	\$1,000.. 128 187
Production workers on March 12	number.. 8 844	Total capital expenditures (new and used)	\$1,000.. 7 813
Production workers on May 12	number.. 8 705	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 1 362
Production workers on August 12	number.. 8 333	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 6 451
Production workers on November 12	number.. 8 254	Total retirements ²	\$1,000.. 5 080
Production-worker hours	1,000.. 15 513	Gross book value of total assets at end of year	\$1,000.. 130 920
Production-worker wages	\$1,000.. 129 747	Total depreciation during year ²	\$1,000.. 11 138
Total cost of materials	\$1,000.. 566 046	Total rental payments ²	\$1,000.. 14 035
Cost of materials, parts, containers, etc., consumed	\$1,000.. 511 075	Buildings and other structures rental payments ²	\$1,000.. 7 029
Cost of resales	\$1,000.. D	Machinery and equipment rental payments ²	\$1,000.. 7 006
Cost of fuels	\$1,000.. 3 657	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 226
Cost of purchased electricity	\$1,000.. 5 120	Response coverage ratio ⁴	percent.. 78
Cost of contract work	\$1,000.. D	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 068
Quantity of electricity purchased for heat and power	1,000 kWh.. 100 879	Response coverage ratio ⁴	percent.. 78
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 1 260
Total value of shipments	\$1,000.. 1 325 367	Response coverage ratio ⁴	percent.. 78
Primary products value of shipments	\$1,000.. 979 222	Cost of purchased legal services ³	\$1,000.. 391
Secondary products value of shipments	\$1,000.. 330 057	Response coverage ratio ⁴	percent.. 78
Total miscellaneous receipts	\$1,000.. 16 088	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 731
Value of resales	\$1,000.. D	Response coverage ratio ⁴	percent.. 78
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 607
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 78
Primary products specialization ratio	percent.. 74	Cost of purchased software and other data processing services ³	\$1,000.. 408
Value of primary products shipments made in all industries	\$1,000.. 1 132 812	Response coverage ratio ⁴	percent.. 78
Value of primary products shipments made in this industry	\$1,000.. 979 222	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 171
Value of primary products shipments made in other industries	\$1,000.. 153 590	Response coverage ratio ⁴	percent.. 78
Coverage ratio	percent.. 86		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315221, MEN'S & BOYS' CUT & SEW UNDERWEAR & NIGHTWEAR MFG												
All establishments	1	75	51	9 491	158 917	8 534	15 513	129 747	764 567	566 046	1 325 367	7 813
Establishments with 1 to 4 employees	9	11	—	33	535	33	50	462	517	1 004	2 142	22
Establishments with 5 to 9 employees	9	6	—	45	501	41	60	416	1 273	1 151	2 408	29
Establishments with 10 to 19 employees	—	7	—	102	2 042	84	135	1 180	14 289	9 307	23 363	213
Establishments with 20 to 49 employees	2	12	12	443	6 887	353	614	4 946	15 267	19 032	35 353	247
Establishments with 50 to 99 employees	3	14	14	923	16 491	732	1 344	10 754	45 681	45 207	94 833	1 858
Establishments with 100 to 249 employees	3	15	15	2 200	31 526	1 939	3 517	25 196	84 934	80 819	166 571	1 337
Establishments with 250 to 499 employees	2	7	7	2 651	39 761	2 503	4 526	33 962	132 299	131 718	267 202	1 184
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	13	—	147	1 814	140	217	1 549	5 002	4 559	9 564	109

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315221	Men's & boys' cut & sew underwear & nightwear mfg	75	9 491	158 917	8 534	15 513	129 747	764 567	566 046	1 325 367	7 813
3152211	Men's, junior boys', and little boys' underwear	37	7 775	132 226	7 078	12 744	109 893	695 997	494 699	1 184 167	6 753
3152213	Men's, junior boys', and little boys' nightwear, including pajamas, night shirts, etc. (except robes)	12	1 050	16 677	859	1 638	11 954	39 955	47 652	87 603	682
3152215	Men's, junior boys', and little boys' robes	6	394	6 098	345	666	4 536	19 382	17 073	37 747	D

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315221	Men's and boys' cut and sew underwear and nightwear @	N	X	X	1 132 812	N	X	X	N
3152211	Men's, junior boys', and little boys' underwear @	N	X	X	959 967	N	X	X	N
31522110	Men's, junior boys', and little boys' underwear	N	X	X	959 967	N	X	X	N
3152211010	Men's and junior boys' underwear \$	41	X	X	D	N	X	X	N
3152211020	Little boys' underwear, including thermal, undershirts, knit undershorts and briefs, and woven boxer shorts \$	5	X	X	D	N	X	X	N
3152211Y	Men's, junior boys', and little boys' underwear, nsk	N	X	X	-	N	X	X	N
3152211YV	Men's, junior boys', and little boys' underwear, nsk	N	X	X	-	N	X	X	N
3152213	Men's, junior boys', and little boys' nightwear, including pajamas, night shirts, etc. (except robes) @	N	X	X	97 289	N	X	X	N
31522130	Men's, junior boys', and little boys' nightwear, including pajamas, night shirts, etc. (except robes)	N	X	X	97 289	N	X	X	N
3152213010	Men's and junior boys' nightwear, including pajamas, night shirts, etc. (except robes) \$	22	X	X	62 329	N	X	X	N
3152213020	Little boys' nightwear, including pajamas, gowns, etc. (except robes) \$	5	X	X	34 960	N	X	X	N
3152213Y	Men's, junior boys', and little boys' nightwear, including pajamas, night shirts, etc. (except robes), nsk	N	X	X	-	N	X	X	N
3152213YV	Men's, junior boys', and little boys' nightwear, including pajamas, night shirts, etc. (except robes), nsk	N	X	X	-	N	X	X	N
3152215	Men's, junior boys', and little boys' robes @	N	X	X	59 957	N	X	X	N
31522150	Men's, junior boys', and little boys' robes	N	X	X	59 957	N	X	X	N
3152215000	Men's, junior boys', and little boys' robes	14	X	X	59 957	N	X	X	N
315221W	Men's and boys' cut and sew underwear and nightwear, nsk, total	N	X	X	15 599	N	X	X	N
315221WY	Men's and boys' cut and sew underwear and nightwear, nsk, total	N	X	X	15 599	N	X	X	N
315221WYV	Men's and boys' cut and sew underwear and nightwear, nsk, for nonadministrative-record establishments	N	X	X	9 332	N	X	X	N
315221WYVY	Men's and boys' cut and sew underwear and nightwear, nsk, for administrative-record establishments	N	X	X	6 267	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152211	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' UNDERWEAR @		
	United States	959 967	N
	Georgia	135 350	N
	Tennessee	76 856	N
	Virginia	67 333	N
3152213	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' NIGHTWEAR, INCLUDING PAJAMAS, NIGHT SHIRTS, ETC. (EXCEPT ROBES) @		
	United States	97 289	N
	New York	4 606	N
	Texas	12 895	N

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152215	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' ROBES @		
	United States	59 957	N
	North Carolina	41 746	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315221	MEN'S & BOYS' CUT & SEW UNDERWEAR & NIGHTWEAR MFG				
31321023	Broadwoven fabrics (piece goods)	X	69 624	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	7 380	X	N
31324000	Knit fabrics	X	173 941	X	N
31311003	Yarn, all fibers	X	D	X	N
33999301	Buttons, zippers, and slide fasteners	X	D	X	N
00970099	All other materials and components, parts, containers, and supplies	X	47 080	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	49 663	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315221 MEN'S AND BOYS' CUT AND SEW UNDERWEAR AND NIGHTWEAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' underwear and nightwear from purchased fabric. Men's and boys' underwear and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of

products made by these establishments are briefs, bathrobes, underwear T-shirts and shorts, nightshirts, and pajamas.

The data published with NAICS code 315221 include the following SIC industries:

- 2322 Men's and boys' underwear and nightwear (pt)
- 2341 Women's and children's underwear (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2384 Robes and dressing gowns (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152211	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152211010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152211020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152213	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152213010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152213020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152215	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt				3152127 pt.....	23699 pt	23699 pt
			3152113	23219 pt	23219 pt	3152127100 pt	2339900	2339900
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2369900	2369900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115	23229	23229	3152129	23419 pt	23419 pt
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191441	2252235	2252235				3152129100 pt	2341903	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
3151191591	2252287	2252287				315212B	23429	23429
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05	315211W pt.....	23950 pt	23950 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2310000 pt	2310000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2321000 pt	2321000 pt			
			315211WYWW pt...	2322000 pt	2322000 pt			
315191E	2253E	2253E	315211WYWW pt...	2325000 pt	2325000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2326000 pt	2326000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt	2329000 pt			
			315211WYWW pt...	2341000 pt	2341000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
315191G100	2259020	2259020	315211WYWW pt...	2385000 pt	2385000 pt			
			315211WYWW pt...	2395000 pt	2395000 pt			
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
3152221 pt.	23115 pt.	23115 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	23693 pt.	23693 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152225 pt.	23117 pt.	23117 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152317YV pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319 pt.	23693 pt.	23693 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319 pt.	23840 pt.	23840 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	3152319000 pt.	2369381 pt.	2369380 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
315222W pt.	23110 pt.	23110 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23690 pt.	23690 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2341000 pt.	2341000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2342000 pt.	2342000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2369000 pt.	2369000 pt.	3152910 pt.	23410 pt.	23410 pt.
3152231010 pt.	2321300 pt.	2321300 pt.	315231WYV pt.	2384000 pt.	2384000 pt.			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3152910 pt.....	23693 pt.....	23693 pt.....	315299W pt.....	23390 pt.....	23390 pt.....	3159995.....	23871.....	23871.....
3152910 pt.....	23850 pt.....	23850 pt.....	315299W pt.....	23890 pt.....	23890 pt.....	3159995111.....	2387113.....	2387113.....
3152910 pt.....	23851 pt.....	23851 pt.....	315299WYWW pt...	2329000 pt.....	2329000 pt.....	3159995121.....	2387115.....	2387115.....
3152910110.....	2341204.....	2341200 pt.....	315299WYWW pt...	2339000 pt.....	2339000 pt.....	3159995131.....	2387153.....	2387153.....
3152910120.....	2341304.....	2341300 pt.....	315299WYWW pt...	2389000 pt.....	2389000 pt.....	3159995141.....	2387155.....	2387155.....
3152910230.....	2361303.....	2361300 pt.....	315299WYWW pt...	2329002 pt.....	2329002 pt.....	3159995YVW.....	2387100.....	2387100.....
3152910240.....	2361403.....	2361400 pt.....	315299WYWW pt...	2339002 pt.....	2339002 pt.....	3159997.....	23872.....	23872.....
3152910250.....	2361502.....	2361500 pt.....	3159911.....	23531.....	23531.....	3159997111.....	2387213.....	2387213.....
3152910260.....	2369203.....	2369200 pt.....	3159911111.....	2353101.....	2353101.....	3159997121.....	2387215.....	2387215.....
3152910270.....	2369343.....	2369340 pt.....	3159911121.....	2353103.....	2353103.....	3159997131.....	2387253.....	2387253.....
31529102A0.....	2369373.....	2369370 pt.....	3159911131.....	2353105.....	2353105.....	3159997141.....	2387255.....	2387255.....
31529102C0 pt.....	2369396.....	2369393 pt.....	3159911141.....	2353109.....	2353109.....	3159997YVW.....	2387200.....	2387200.....
31529102C0 pt.....	2385171.....	2385171.....	3159911YVW.....	2353100.....	2353100.....	315999A.....	23890 pt.....	23890 pt.....
3152910YVW pt...	2341000 pt.....	2341000 pt.....	3159913.....	23532.....	23532.....	315999A111.....	2389045.....	2389031 pt.....
3152910YVW pt...	2341200 pt.....	2341200 pt.....	3159913111.....	2353201.....	2353201.....	315999A221.....	2389053.....	2389053.....
3152910YVW pt...	2341300 pt.....	2341300 pt.....	3159913121.....	2353203.....	2353203.....	315999A231.....	2389057.....	2389057.....
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			3159993.....	23851 pt.....	23851 pt.....	315999WYVWY pt...	2389002 pt.....	2389002 pt.....
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Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing

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1997 Economic Census

Manufacturing

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	194	222	21 402	450 504	17 317	33 418	314 112	1 113 653	1 023 475	2 088 630	16 300
231120	Men's & boys' suits & coats (pt)	N	206	20 157	419 712	16 397	31 537	298 986	1 065 031	904 140	1 923 169	14 781
236930	Girls' & children's outerwear, n.e.c. (pt)	N	5	598	17 229	414	934	7 839	30 715	98 604	125 200	D
238530	Waterproof outer garments (pt)	N	11	647	13 563	506	947	7 287	17 907	20 731	40 261	D

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG												
United States	3	222	126	21 402	450 504	17 317	33 418	314 112	1 113 653	1 023 475	2 088 630	16 300
California	6	32	11	616	11 628	495	881	7 863	33 596	16 350	49 598	739
Georgia	7	10	9	1 205	25 341	989	1 628	17 112	95 165	146 452	234 343	530
Massachusetts	4	16	12	2 918	68 452	2 434	5 350	51 264	125 225	157 848	279 951	2 393
Missouri	-	5	4	1 096	19 381	926	1 613	15 084	55 271	25 988	69 665	292
New Jersey	-	7	4	318	6 821	290	556	4 696	11 093	3 896	14 982	372
New York	1	47	22	3 520	78 511	2 793	5 616	53 034	263 846	165 742	419 995	2 320
Pennsylvania	3	20	16	3 380	74 378	2 738	5 119	49 254	181 266	207 820	381 586	2 773
Tennessee	6	5	4	1 268	24 476	1 077	1 950	17 660	42 127	88 008	129 881	1 382

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG		315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG—Con.	
Companies ¹	number.. 194	3152221, Men's & boys' cut & sew suit, coat, & overcoat mfg—manufacturer—Con.	
All establishments	number.. 222	Production workers, average for year	number.. 17 035
Establishments with 1 to 19 employees	number.. 96	Production workers on March 12	number.. 17 495
Establishments with 20 to 99 employees	number.. 67	Production workers on May 12	number.. 16 949
Establishments with 100 employees or more	number.. 59	Production workers on August 12	number.. 16 871
All employees	number.. 21 402	Production workers on November 12	number.. 16 825
Total compensation ²	\$1,000.. 571 021	Production-worker hours	1,000.. 32 974
Annual payroll	\$1,000.. 450 504	Production-worker wages	\$1,000.. 305 329
Total fringe benefits	\$1,000.. 120 517	Total cost of materials	\$1,000.. 840 811
Production workers, average for year	number.. 17 317	Cost of materials, parts, containers, etc., consumed	\$1,000.. 671 764
Production workers on March 12	number.. 17 765	Cost of resales	\$1,000.. 54 800
Production workers on May 12	number.. 17 231	Cost of fuels	\$1,000.. 4 486
Production workers on August 12	number.. 17 158	Cost of purchased electricity	\$1,000.. 11 182
Production workers on November 12	number.. 17 114	Cost of contract work	\$1,000.. 98 579
Production-worker hours	1,000.. 33 418	Quantity of electricity purchased for heat and power	1,000 kWh.. 144 742
Production-worker wages	\$1,000.. 314 112	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 1 023 475	Total value of shipments	\$1,000.. 1 831 768
Cost of materials, parts, containers, etc., consumed	\$1,000.. 780 069	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 85 218	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 4 576	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 11 542	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 142 070	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 150 167	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 2 088 630	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 1 729 515	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 217 576	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 141 539	Coverage ratio	percent.. X
Value of resales	\$1,000.. 140 398	Value added	\$1,000.. 1 033 702
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 375 522
Other miscellaneous receipts	\$1,000.. 1 141	Finished goods inventories, beginning of year	\$1,000.. 177 853
Primary products specialization ratio	percent.. 88	Work-in-process inventories, beginning of year	\$1,000.. 77 973
Value of primary products shipments made in all industries	\$1,000.. 1 901 933	Materials and supplies inventories, beginning of year	\$1,000.. 119 696
Value of primary products shipments made in this industry	\$1,000.. 1 729 515	Total inventories, end of year	\$1,000.. 399 235
Value of primary products shipments made in other industries	\$1,000.. 172 418	Finished goods inventories, end of year	\$1,000.. 194 532
Coverage ratio	percent.. 90	Work-in-process inventories, end of year	\$1,000.. 104 039
Value added	\$1,000.. 1 113 653	Materials and supplies inventories, end of year	\$1,000.. 100 664
Total inventories, beginning of year	\$1,000.. 401 469	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 193 457	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 80 776	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 127 236	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 434 118	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 214 972	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 107 759	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 111 387	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 274 111	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 16 300	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 3 591	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 12 709	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 9 602	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 280 809	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 21 014	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 14 151	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 8 061	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 6 090	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 643	Cost of purchased legal services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 52	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 086	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 52	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 1 388	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 52	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 1 491	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 52	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 990	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 52	Response coverage ratio ⁴	percent.. X
Cost of purchased advertising services ³	\$1,000.. 6 053		
Response coverage ratio ⁴	percent.. 52	3152222, Men's & boys' cut & sew suit, coat, & overcoat mfg—jobber	
Cost of purchased software and other data processing services ³	\$1,000.. 784	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 52	All establishments	number.. 15
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 338	Establishments with 1 to 19 employees	number.. 8
Response coverage ratio ⁴	percent.. 52	Establishments with 20 to 99 employees	number.. 7
		Establishments with 100 employees or more	number.. -
3152221, Men's & boys' cut & sew suit, coat, & overcoat mfg—manufacturer		All employees	number.. 413
Companies ¹	number.. N	Total compensation ²	\$1,000.. 16 392
All establishments	number.. 207	Annual payroll	\$1,000.. 14 799
Establishments with 1 to 19 employees	number.. 88	Total fringe benefits	\$1,000.. 1 593
Establishments with 20 to 99 employees	number.. 60	Production workers, average for year	number.. 282
Establishments with 100 employees or more	number.. 59	Production workers on March 12	number.. 270
All employees	number.. 20 989	Production workers on May 12	number.. 282
Total compensation ²	\$1,000.. 554 629	Production workers on August 12	number.. 287
Annual payroll	\$1,000.. 435 705	Production workers on November 12	number.. 289
Total fringe benefits	\$1,000.. 118 924	Production-worker hours	1,000.. 444
		Production-worker wages	\$1,000.. 8 783

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG—Con.		315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG—Con.	
3152222, Men's & boys' cut & sew suit, coat, & overcoat mfg—jobber—Con.		3152222, Men's & boys' cut & sew suit, coat, & overcoat mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	182 664	Finished goods inventories, end of year	\$1,000..
Cost of resales	108 305	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	30 418	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	90	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	43 491	Total capital expenditures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Total value of shipments	\$1,000..	Total retirements ²	\$1,000..
Primary products value of shipments	X	Gross book value of total assets at end of year	\$1,000..
Secondary products value of shipments	X	Total depreciation during year ²	\$1,000..
Total miscellaneous receipts	X	Total rental payments ²	\$1,000..
Value of resales	X	Buildings and other structures rental payments ²	\$1,000..
Contract receipts	X	Machinery and equipment rental payments ²	\$1,000..
Other miscellaneous receipts	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Coverage ratio	percent..	Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased legal services ³	\$1,000..
Total inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Finished goods inventories, beginning of year	25 947	Cost of purchased accounting and bookkeeping services ³	\$1,000..
Work-in-process inventories, beginning of year	15 604	Response coverage ratio ⁴	percent..
Materials and supplies inventories, beginning of year	2 803	Cost of purchased advertising services ³	\$1,000..
	7 540	Response coverage ratio ⁴	percent..
		Cost of purchased software and other data processing services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315222, MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG												
All establishments	3	222	126	21 402	450 504	17 317	33 418	314 112	1 113 653	1 023 475	2 088 630	16 300
Establishments with 1 to 4 employees	3	46	—	90	1 753	71	148	1 123	3 594	10 325	17 571	265
Establishments with 5 to 9 employees	7	22	—	150	3 061	128	248	2 295	6 593	3 959	10 444	98
Establishments with 10 to 19 employees	2	28	—	407	9 479	309	601	5 693	24 110	34 379	58 526	435
Establishments with 20 to 49 employees	1	43	43	1 446	27 257	1 117	1 917	17 042	67 847	82 313	148 136	1 270
Establishments with 50 to 99 employees	6	24	24	1 813	40 008	1 361	2 519	25 524	117 796	159 805	273 868	1 111
Establishments with 100 to 249 employees	4	33	33	5 768	108 458	4 815	8 815	82 394	230 938	242 418	469 043	4 496
Establishments with 250 to 499 employees	2	19	19	6 536	142 806	5 479	11 003	101 476	323 005	334 350	644 086	4 781
Establishments with 500 to 999 employees	1	7	7	5 192	117 682	4 037	8 167	78 565	339 770	155 926	466 956	3 844
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	42	—	220	3 932	185	356	2 927	9 363	5 295	14 507	161

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	222	21 402	450 504	17 317	33 418	314 112	1 113 653	1 023 475	2 088 630	16 300
3152221	Men's, junior boys', and little boys' suits, including uniform	82	11 812	260 078	9 315	18 796	178 762	617 718	544 143	1 125 372	8 027
3152223	Men's and junior boys' overcoats, topcoats, and tailored car and suburban coats, including uniform and wool water-repellent, excluding raincoats	16	1 493	27 956	1 159	2 152	20 276	51 531	81 328	127 631	1 359
3152225	Men's and junior boys' tailored dress and sport coats, including uniform and separate leisure-type, and tailored vests	33	6 608	132 749	5 650	10 237	96 938	389 183	333 416	715 142	5 219
3152227	Men's, junior boys', and little boys' raincoats and raincoats	9	644	13 507	504	942	7 250	17 816	20 616	40 053	818

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315222	Men's and boys' cut and sew suits, coats and overcoats	N	X	X	1 901 933	N	X	X	N
3152221	Men's, junior boys', and little boys' suits, including uniforms @	N	X	X	891 296	N	X	X	N
31522210	Men's, junior boys', and little boys' suits, including uniforms	N	X	X	891 296	N	X	X	N
3152221010	Men's and junior boys' suits, including uniforms	85	X	X	813 208	99	X	X	1 166 640
3152221020	Little boys' suits, including uniforms, overcoats, topcoats, tailored coats and vests, excluding raincoats and heavy nontailored outerwear	17	X	X	78 088	N	X	X	N
3152221Y	Men's, junior boys', and little boys' suits, including uniforms, nsk	N	X	X	-	N	X	X	N
3152221YVW	Men's, junior boys', and little boys' suits, including uniforms, nsk	N	X	X	-	N	X	X	N
3152223	Men's and junior boys' overcoats, topcoats, and tailored car and suburban coats, including uniform and wool water-repellent, excluding raincoats @	N	X	X	89 822	N	X	X	53 424
31522230	Men's and junior boys' overcoats, topcoats, and tailored car and suburban coats, including uniform and wool water-repellent, excluding raincoats	N	X	X	89 822	N	X	X	N
3152223000	Men's and junior boys' overcoats, topcoats, and tailored car and suburban coats, including uniform and wool water-repellent, excluding raincoats	27	X	X	89 822	26	X	X	53 424
3152225	Men's and junior boys' tailored dress and sport coats, including uniform and separate leisure-type, and tailored vests @	N	X	X	809 842	N	X	X	861 192
31522250	Men's and junior boys' tailored dress and sport coats, including uniform and separate leisure-type, and tailored vests	N	X	X	809 842	N	X	X	N
3152225000	Men's and junior boys' tailored dress and sport coats, including uniform and separate leisure-type, and tailored vests	67	X	X	809 842	91	X	X	861 192
3152227	Men's, junior boys', and little boys' raincoats and raincoats @	N	X	X	52 760	N	X	X	N
31522270	Men's, junior boys', and little boys' raincoats and raincoats	N	X	X	52 760	N	X	X	N
3152227000	Men's, junior boys', and little boys' raincoats and raincoats	22	X	X	52 760	N	X	X	N
315222W	Men's and boys' cut and sew suits, coats and overcoats, nsk, total	N	X	X	58 213	N	X	X	N
315222WY	Men's and boys' cut and sew suits, coats and overcoats, nsk, total	N	X	X	58 213	N	X	X	N
315222WYWW	Men's and boys' cut and sew suits, coats and overcoats, nsk, for non-administrative record establishments	N	X	X	42 728	N	X	X	N
315222WYWY	Men's and boys' cut and sew suits, coats and overcoats, nsk, for administrative record establishments	N	X	X	15 485	N	X	X	N

Additional information is available for this item: see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152221	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' SUITS, INCLUDING UNIFORMS @		
	United States	891 296	N
	California	19 361	N
	Georgia	72 020	N
	Maryland	60 183	N
	Massachusetts	76 107	N
	Missouri	37 583	N
	New York	208 396	N
	Pennsylvania	138 538	N
	Tennessee	81 277	N
Texas	20 500	N	
3152223	MEN'S AND JUNIOR BOYS' OVERCOATS, TOPCOATS, AND TAILORED CAR AND SUBURBAN COATS, INCLUDING UNIFORM AND WOOL WATER-REPELLENT, EXCLUDING RAINCOATS @		
	United States	89 822	53 424
	Massachusetts	35 662	N
	New Jersey	4 165	N
New York	7 302	N	
3152225	MEN'S AND JUNIOR BOYS' TAILORED DRESS AND SPORT COATS, INCLUDING UNIFORM AND SEPARATE LEISURE-TYPE, AND TAILORED VESTS @		
	United States	809 842	861 192
	California	14 994	9 611
	Florida	4 465	14 257
	Georgia	107 025	50 558
	Illinois	34 116	23 340
	Maryland	17 505	30 481
	Massachusetts	92 170	116 145
	New York	124 043	176 305
	Pennsylvania	157 215	118 679
3152227	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' RAINCOATS AND RAINCAPES @		
	United States	52 760	N
	Oregon	7 253	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315222	MEN'S & BOYS' CUT & SEW SUIT, COAT, & OVERCOAT MFG				
31321023	Broadwoven fabrics (piece goods)	X	504 438	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	40 815	X	N
31324000	Knit fabrics	X	6 468	X	N
31311003	Yarn, all fibers	X	9 390	X	N
33999301	Buttons, zippers, and slide fasteners	X	37 690	X	N
00970099	All other materials and components, parts, containers, and supplies	X	75 468	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	105 800	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315222 MEN'S AND BOYS' CUT AND SEW SUIT, COAT, AND OVERCOAT MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' suits, overcoats, sport coats, tuxedos, dress uniforms, and other tailored apparel (except fur and leather) from purchased fabric. Men's and boys' suit, coat, and overcoat jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315222 include the following SIC industries:

- 2311 Men's and boys' suits and coats (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census –

Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315222 do not include establishments primarily engaged in custom tailoring.

3152221 Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing men's and boys' suits, overcoats, sport coats, tuxedos, dress uniforms, and other tailored apparel (except fur and leather) from purchased fabric.

3152222 Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing - Jobber

Establishments engaged as men's and boys' suit, coat, and overcoat jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152221	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152223	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152225	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152227	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt.....	22590 pt	315211WYWW pt...	2311002 pt.....	2311002 pt
3151111 pt.....	22525 pt.....	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt.....	2259000 pt	315211WYWW pt...	2321002 pt.....	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt.....	2259002 pt	315211WYWW pt...	2322002 pt.....	2322002 pt
3151111141	2251419	2251419				315211WYWW pt...	2325002 pt.....	2325002 pt
3151111191 pt.....	2251424 pt.....	2251415	3151921	22541	22541	315211WYWW pt...	2325902 pt.....	2325902
3151111191 pt.....	2251424 pt.....	2251423	3151921110	2254111	2254111	315211WYWW pt...	2326002 pt.....	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt...	2326902	2326902
3151111YVV pt.....	2252500 pt.....	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt...	2329002 pt.....	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt...	2341002 pt.....	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt...	2384002 pt.....	2384002 pt
3151113341	2251615	2251615				315211WYWW pt...	2385002 pt.....	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt.....	22590 pt	315211WYWW pt...	2395002 pt.....	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030 pt			
3151113YVV	2251600	2251600	3151927120	2259040	2259098 pt	3152121	23319 pt.....	23319 pt
			3151927YVV	2259000 pt.....	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt.....	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt.....	22590 pt	3152123 pt.....	23619 pt.....	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt.....	2335900	2335900
			315192WYWW pt...	2259000 pt.....	2259000 pt	3152123100 pt.....	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt.....	22520 pt	315192WYWW pt...	2259002 pt.....	2259002 pt	3152125	23379 pt.....	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt.....	2252000 pt	3152111	23119 pt.....	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt.....	23399 pt
315111WYWW pt.....	2252002 pt.....	2252002 pt						
			3152113	23219 pt.....	23219 pt	3152127 pt.....	23699 pt.....	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt.....	2339900	2339900
3151191111	2252223	2252223				3152127100 pt.....	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt.....	23419 pt
3151191441	2252235	2252235				3152129100 pt.....	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt.....	23259 pt	3152129100 pt.....	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt.....	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt.....	23269 pt			
			3152119100	2326900	2326900	315212B	23429	23429
						315212B100	2342900	2342900
3151193	22525 pt.....	22525 pt	315211B	23299 pt.....	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt.....	93000 pt
3151193121	2252501	2252501				315212D100 pt.....	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt.....	93000 pt	315212D100 pt.....	2384900 pt.....	9300000 pt
3151193241	2252521	2252521	315211D100 pt.....	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt.....	2384900 pt.....	9300000 pt	315212F	23859 pt.....	23859 pt
3151193261	2252533	2252531				315212F100 pt.....	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt.....	23859 pt	315212F100 pt.....	2385900 pt.....	2385900 pt
3151193381	2252557	2252557	315211F100 pt.....	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt.....	2385900 pt.....	2385900 pt	315212H	23959 pt.....	23958 pt
31511933B1	2252588	2252581				315212H100 pt.....	2395900 pt.....	2395800 pt
3151193YVV	2252500 pt.....	2252500 pt	315211H	23959 pt.....	23958 pt	315212H100 pt.....	2395994	2395833
			315211H100 pt.....	2395900 pt.....	2395800 pt			
3151195	22526	22526	315211H100 pt.....	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt.....	23110 pt	315212J100 pt.....	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt.....	23119 pt	315212J100 pt.....	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt.....	23210 pt	315212W pt.....	23310 pt.....	23310 pt
			315211W pt.....	23219 pt.....	23219 pt	315212W pt.....	23319 pt.....	23319 pt
315119W	22520 pt.....	22520 pt	315211W pt.....	23220 pt.....	23220 pt	315212W pt.....	23350 pt.....	23350 pt
315119WYWW	2252000 pt.....	2252000 pt	315211W pt.....	23250 pt.....	23250 pt	315212W pt.....	23359 pt.....	23359 pt
315119WYWW	2252002 pt.....	2252002 pt	315211W pt.....	23259 pt.....	23259 pt	315212W pt.....	23370 pt.....	23370 pt
			315211W pt.....	23260 pt.....	23260 pt	315212W pt.....	23379 pt.....	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt.....	23269 pt	315212W pt.....	23390 pt.....	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt.....	23290 pt	315212W pt.....	23399 pt.....	23399 pt
			315211W pt.....	23299 pt.....	23299 pt	315212W pt.....	23410 pt.....	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt.....	23410 pt	315212W pt.....	23419 pt.....	23419 pt
3151913100	2253500	2253500				315212W pt.....	23420 pt.....	23420 pt
			315211W pt.....	23840 pt.....	23840 pt	315212W pt.....	23610 pt.....	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt.....	23850 pt			
3151915100	2253600	2253600				315212W pt.....	23619 pt.....	23619 pt
			315211W pt.....	23950 pt.....	23950 pt	315212W pt.....	23690 pt.....	23690 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt.....	2311000 pt	315212W pt.....	23699 pt.....	23699 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt.....	2321000 pt	315212W pt.....	23840 pt.....	23840 pt
			315211WYWW pt...	2322000 pt.....	2322000 pt	315212W pt.....	23850 pt.....	23850 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt.....	2325000 pt	315212W pt.....	2385000 pt.....	2385000 pt
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt.....	2326000 pt	315212W pt.....	2395000 pt.....	2395000 pt
			315211WYWW pt...	2329000 pt.....	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	23850 pt.....	23850 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt.....	2384000 pt	315212W pt.....	2385000 pt.....	2385000 pt
			315211WYWW pt...	2385000 pt.....	2385000 pt			
315191C	2253D	2253D	315211WYWW pt...	2395000 pt.....	2395000 pt			
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05	315211W pt.....	2395000 pt.....	2395000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2310000 pt.....	2310000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2320000 pt.....	2320000 pt			
			315211WYWW pt...	2322000 pt.....	2322000 pt			
315191E	2253E	2253E	315211WYWW pt...	2325000 pt.....	2325000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2326000 pt.....	2326000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt.....	2329000 pt			
			315211WYWW pt...	2341000 pt.....	2341000 pt			
315191G	22590 pt.....	22590 pt	315211WYWW pt...	2384000 pt.....	2384000 pt			
315191G100	2259020	2259020	315211WYWW pt...	2385000 pt.....	2385000 pt			
			315211WYWW pt...	2395000 pt.....	2395000 pt			
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.....	23950 pt.....	23950 pt.....	315223W pt.....	23610 pt.....	23610 pt.....	3152323 pt.....	23614 pt.....	23614 pt.....
315212WYWW pt.....	2331000 pt.....	2331000 pt.....	315223WYWW pt.....	2321000 pt.....	2321000 pt.....	3152323010.....	2331400 pt.....	2331400 pt.....
315212WYWW pt.....	2335000 pt.....	2335000 pt.....	315223WYWW pt.....	2361000 pt.....	2361000 pt.....	3152323020.....	2361401.....	2361400 pt.....
315212WYWW pt.....	2337000 pt.....	2337000 pt.....	315223WYWW pt.....	2321002 pt.....	2321002 pt.....	3152323YV pt.....	2331400 pt.....	2331400 pt.....
315212WYWW pt.....	2339000 pt.....	2339000 pt.....	315223WYWW pt.....	2361002 pt.....	2361002 pt.....	3152323YV pt.....	2361400 pt.....	2361400 pt.....
315212WYWW pt.....	2341000 pt.....	2341000 pt.....	315224 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt.....	2342000 pt.....	2342000 pt.....	3152241 pt.....	23693 pt.....	23693 pt.....	315232W pt.....	23610 pt.....	23610 pt.....
315212WYWW pt.....	2346000 pt.....	2346000 pt.....	3152241010.....	2325100 pt.....	2325100 pt.....	315232WYWW pt.....	2331000 pt.....	2331000 pt.....
315212WYWW pt.....	2369000 pt.....	2369000 pt.....	3152241020.....	2369342.....	2369340 pt.....	315232WYWW pt.....	2361000 pt.....	2361000 pt.....
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315212WYWW pt.....	2385000 pt.....	2385000 pt.....	3152241YV pt.....	2369300 pt.....	2369300 pt.....	315232WYWW pt.....	2361002 pt.....	2361002 pt.....
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Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing

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1997 Economic Census

Manufacturing

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	395	490	49 433	879 444	41 327	74 643	636 485	2 525 884	3 137 896	5 655 846	58 183
232120	Shirts, men's & boys' (pt)	N	479	48 699	867 294	40 704	73 714	627 042	2 473 791	3 081 664	5 549 585	57 885
236120	Girls' & children's dresses & blouses (pt)	N	11	734	12 150	623	929	9 443	52 093	56 232	106 261	298

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG												
United States	1	490	319	49 433	879 444	41 327	74 643	636 485	2 525 884	3 137 896	5 655 846	58 183
Alabama	1	28	26	7 202	104 433	6 689	10 013	89 941	220 840	380 245	611 386	6 303
California	2	123	66	5 826	113 204	4 705	8 999	72 583	293 555	387 801	675 360	13 409
Florida	1	24	17	2 582	49 995	2 060	3 546	30 475	144 432	222 014	354 638	2 540
Georgia	—	21	17	2 544	49 653	2 197	4 944	36 048	180 402	408 626	550 978	3 533
Mississippi	3	14	10	1 191	14 969	904	1 657	12 993	62 704	49 151	112 405	709
Missouri	1	6	5	316	4 088	300	494	3 630	9 021	3 725	13 069	106
New Jersey	4	9	5	1 552	33 395	1 195	2 581	20 276	76 504	66 289	136 313	4 964
New York	—	29	7	1 046	30 711	625	983	19 638	136 896	174 165	322 148	1 720
North Carolina	—	56	49	7 749	137 134	6 137	11 256	91 017	322 855	501 040	839 799	9 172
Pennsylvania	5	27	20	2 350	35 504	2 137	3 910	30 555	158 657	111 669	270 819	2 924
Tennessee	1	34	25	3 109	47 305	2 654	4 914	37 302	176 456	129 598	314 942	3 022
Virginia	—	19	17	6 594	128 600	6 155	11 232	110 293	280 955	307 175	590 802	3 523

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG		315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG—Con.	
Companies ¹	number.. 395	3152231, Men's & boys' cut & sew shirt (exc work shirt) mfg—manufacturer—Con.	
All establishments	number.. 490	Production workers, average for year	number.. 38 731
Establishments with 1 to 19 employees	number.. 171	Production workers on March 12	number.. 40 226
Establishments with 20 to 99 employees	number.. 175	Production workers on May 12	number.. 39 712
Establishments with 100 employees or more	number.. 144	Production workers on August 12	number.. 37 955
All employees	number.. 49 433	Production workers on November 12	number.. 37 031
Total compensation ²	\$1,000.. 1 078 957	Production-worker hours	1,000.. 70 030
Annual payroll	\$1,000.. 879 444	Production-worker wages	\$1,000.. 573 422
Total fringe benefits	\$1,000.. 199 513	Total cost of materials	\$1,000.. 2 184 713
Production workers, average for year	number.. 41 327	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 803 361
Production workers on March 12	number.. 43 109	Cost of resales	\$1,000.. 225 268
Production workers on May 12	number.. 42 291	Cost of fuels	\$1,000.. 3 454
Production workers on August 12	number.. 40 443	Cost of purchased electricity	\$1,000.. 19 258
Production workers on November 12	number.. 39 465	Cost of contract work	\$1,000.. 133 372
Production-worker hours	1,000.. 74 643	Quantity of electricity purchased for heat and power	1,000 kWh.. 301 348
Production-worker wages	\$1,000.. 636 485	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 3 137 896	Total value of shipments	\$1,000.. 4 279 560
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 334 642	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 441 195	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 5 833	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 24 674	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 331 552	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 380 078	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 5 655 846	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 4 063 830	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 1 016 820	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 575 196	Coverage ratio	percent.. X
Value of resales	\$1,000.. 569 075	Value added	\$1,000.. 2 080 834
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 566 034
Other miscellaneous receipts	\$1,000.. 6 121	Finished goods inventories, beginning of year	\$1,000.. 318 968
Primary products specialization ratio	percent.. 79	Work-in-process inventories, beginning of year	\$1,000.. 106 961
Value of primary products shipments made in all industries	\$1,000.. 4 632 382	Materials and supplies inventories, beginning of year	\$1,000.. 140 105
Value of primary products shipments made in this industry	\$1,000.. 4 063 830	Total inventories, end of year	\$1,000.. 529 791
Value of primary products shipments made in other industries	\$1,000.. 568 552	Finished goods inventories, end of year	\$1,000.. 296 057
Coverage ratio	percent.. 87	Work-in-process inventories, end of year	\$1,000.. 115 859
Value added	\$1,000.. 2 525 884	Materials and supplies inventories, end of year	\$1,000.. 117 875
Total inventories, beginning of year	\$1,000.. 766 838	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 456 549	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 137 559	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 172 730	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 757 591	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 443 249	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 158 793	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 155 549	Buildings and other structures rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 655 531	Machinery and equipment rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 58 183	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 10 328	Response coverage ratio ⁴	percent.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 47 855	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Total retirements ²	\$1,000.. 25 850	Response coverage ratio ⁴	percent.. X
Gross book value of total assets at end of year	\$1,000.. 687 864	Cost of purchased communications services ³	\$1,000.. X
Total depreciation during year ²	\$1,000.. 49 364	Response coverage ratio ⁴	percent.. X
Total rental payments ²	\$1,000.. 29 817	Cost of purchased legal services ³	\$1,000.. X
Buildings and other structures rental payments ²	\$1,000.. 20 574	Response coverage ratio ⁴	percent.. X
Machinery and equipment rental payments ²	\$1,000.. 9 243	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 11 180	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 81	Cost of purchased advertising services ³	\$1,000.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 9 986	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 81	Cost of purchased software and other data processing services ³	\$1,000.. X
Cost of purchased communications services ³	\$1,000.. 5 530	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 81	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Cost of purchased legal services ³	\$1,000.. 1 632	Response coverage ratio ⁴	percent.. X
Response coverage ratio ⁴	percent.. 81	3152232, Men's & boys' cut & sew shirt (exc work shirt) mfg—jobber	
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 3 081	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 81	All establishments	number.. 51
Cost of purchased advertising services ³	\$1,000.. 8 724	Establishments with 1 to 19 employees	number.. 17
Response coverage ratio ⁴	percent.. 81	Establishments with 20 to 99 employees	number.. 23
Cost of purchased software and other data processing services ³	\$1,000.. 2 346	Establishments with 100 employees or more	number.. 11
Response coverage ratio ⁴	percent.. 81	All employees	number.. 3 513
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 065	Total compensation ²	\$1,000.. 104 147
Response coverage ratio ⁴	percent.. 81	Annual payroll	\$1,000.. 90 703
3152231, Men's & boys' cut & sew shirt (exc work shirt) mfg—manufacturer		Total fringe benefits	\$1,000.. 13 444
Companies ¹	number.. N	Production workers, average for year	number.. 2 596
All establishments	number.. 439	Production workers on March 12	number.. 2 883
Establishments with 1 to 19 employees	number.. 154	Production workers on May 12	number.. 2 579
Establishments with 20 to 99 employees	number.. 152	Production workers on August 12	number.. 2 488
Establishments with 100 employees or more	number.. 133	Production workers on November 12	number.. 2 434
All employees	number.. 45 920	Production-worker hours	1,000.. 4 613
Total compensation ²	\$1,000.. 974 810	Production-worker wages	\$1,000.. 63 063
Annual payroll	\$1,000.. 788 741		
Total fringe benefits	\$1,000.. 186 069		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG—Con.		315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG—Con.	
3152232, Men's & boys' cut & sew shirt (exc work shirt) mfg—jobber—Con.		3152232, Men's & boys' cut & sew shirt (exc work shirt) mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	953 183	Finished goods inventories, end of year	\$1,000..
Cost of resales	531 281	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	215 927	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	2 379	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	5 416	Total capital expenditures (new and used)	\$1,000..
	198 180	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	X	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
Coverage ratio	percent..	Response coverage ratio ⁴	percent..
		Cost of purchased accounting and bookkeeping services ³	\$1,000..
Value added	\$1,000..	Response coverage ratio ⁴	percent..
		Cost of purchased advertising services ³	\$1,000..
Total inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Finished goods inventories, beginning of year	200 804	Cost of purchased software and other data processing services ³	\$1,000..
Work-in-process inventories, beginning of year	137 581	Response coverage ratio ⁴	percent..
Materials and supplies inventories, beginning of year	30 598	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
	32 625	Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315223, MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG												
All establishments	1	490	319	49 433	879 444	41 327	74 643	636 485	2 525 884	3 137 896	5 655 846	58 183
Establishments with 1 to 4 employees	8	80	—	150	6 742	139	240	5 893	5 305	10 784	16 827	310
Establishments with 5 to 9 employees	4	42	—	292	5 555	262	455	4 459	15 826	18 388	34 165	318
Establishments with 10 to 19 employees	3	49	—	648	14 528	480	844	8 242	44 011	61 947	103 720	1 915
Establishments with 20 to 49 employees	2	96	96	3 070	56 669	2 377	4 139	35 106	177 444	209 525	380 033	2 617
Establishments with 50 to 99 employees	2	79	79	5 631	95 933	4 744	8 521	70 757	222 984	318 750	550 565	5 930
Establishments with 100 to 249 employees	—	88	88	15 050	254 228	13 308	24 551	207 181	735 928	1 169 658	1 870 172	11 088
Establishments with 250 to 499 employees	2	42	42	13 876	225 708	11 132	19 675	155 446	688 764	784 033	1 492 701	26 922
Establishments with 500 to 999 employees	—	13	13	D	D	D	D	D	D	D	D	9 083
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	58	—	458	6 858	427	698	5 934	16 799	19 615	36 062	595

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	490	49 433	879 444	41 327	74 643	636 485	2 525 884	3 137 896	5 655 846	58 183
3152231	Men's, junior boys', and little boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank tops, and T-shirts	250	34 530	592 511	29 304	53 069	436 491	1 638 958	2 042 694	3 693 066	39 183
3152233	Men's, junior boys', and little boys' woven dress and sport shirts, including military-type uniform shirts	70	10 511	211 650	8 195	15 199	138 179	712 387	893 654	1 590 739	13 570

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315223	Men's and boys' cut and sew shirts (except work shirts)	N	X	X	4 632 382	N	X	X	N
3152231	Men's, junior boys', and little boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank tops, and T-shirts @	N	X	X	3 333 746	N	X	X	N
31522310	Men's, junior boys', and little boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank-tops, and T-shirts	N	X	X	3 333 746	N	X	X	N
3152231010	Men's and junior boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank-tops, and T-shirts \$	279	X	X	3 140 541	N	X	X	N
3152231020	Little boys' knit shirts \$	45	X	X	193 205	N	X	X	N
3152231Y	Men's, junior boys', and little boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank tops, and T-shirts, nsk	N	X	X	-	N	X	X	N
3152231YVW	Men's, junior boys', and little boys' knit shirts, dress and sport shirts, including polo, tennis, sweat, tank tops, and T-shirts, nsk	N	X	X	-	N	X	X	N
3152233	Men's, junior boys', and little boys' woven dress and sport shirts, including military-type uniform shirts @	N	X	X	985 835	N	X	X	N
31522330	Men's, junior boys', and little boys' woven dress and sport shirts, including military-type uniform shirts	N	X	X	985 835	N	X	X	N
3152233010	Men's and junior boys' woven dress and sport shirts, including military-type uniform shirts	120	X	X	951 813	N	X	X	N
3152233020	Little boys' woven dress and sport shirts, including military-type uniform shirts	11	X	X	34 022	N	X	X	N
3152233Y	Men's, junior boys', and little boys' woven dress and sport shirts, including military-type uniform shirts, nsk	N	X	X	-	N	X	X	N
3152233YVW	Men's, junior boys', and little boys' woven dress and sport shirts, including military-type uniform shirts, nsk	N	X	X	-	N	X	X	N
315223W	Men's and boys' cut and sew shirts (except work shirts), nsk, total	N	X	X	312 801	N	X	X	N
315223WY	Men's and boys' cut and sew shirts (except work shirts), nsk, total	N	X	X	312 801	N	X	X	N
315223WYVW	Men's and boys' cut and sew shirts (except work shirts), nsk, for nonadministrative-record establishments	N	X	X	276 306	N	X	X	N
315223WYVY	Men's and boys' cut and sew shirts (except work shirts), nsk, for administrative-record establishments	N	X	X	36 495	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^a 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152231	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' KNIT SHIRTS, DRESS AND SPORT SHIRTS, INCLUDING POLO, TENNIS, SWEAT, TANK TOPS, AND T-SHIRTS @		
	United States	3 333 746	N
	Alabama	416 078	N
	California	537 313	N
	Florida	255 071	N
	Georgia	137 892	N
	Hawaii	7 326	N
	Kansas	10 310	N
	Kentucky	23 541	N
	Louisiana	18 997	N
	Mississippi	75 546	N
	Missouri	13 966	N
	New York	63 069	N
	North Carolina	482 125	N
	Pennsylvania	214 866	N
	South Carolina	273 768	N
	Tennessee	179 098	N
Texas	5 908	N	
Virginia	406 007	N	
Wisconsin	6 287	N	
3152233	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' WOVEN DRESS AND SPORT SHIRTS, INCLUDING MILITARY-TYPE UNIFORM SHIRTS @		
	United States	985 835	N
	Alabama	135 379	N
	California	91 226	N
	Georgia	163 073	N
	North Carolina	94 920	N
	South Carolina	5 869	N
	Tennessee	70 052	N
	Texas	44 232	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315223	MEN'S & BOYS' CUT & SEW SHIRT (EXC WORK SHIRT) MFG				
31321023	Broadwoven fabrics (piece goods)	X	363 347	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	66 926	X	N
31324000	Knit fabrics	X	1 210 570	X	N
31311003	Yarn, all fibers	X	59 071	X	N
33999301	Buttons, zippers, and slide fasteners	X	54 720	X	N
00970099	All other materials and components, parts, containers, and supplies	X	289 271	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	290 737	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; a 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315223 MEN'S AND BOYS' CUT AND SEW SHIRT (EXCEPT WORK SHIRT) MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' outerwear shirts from purchased fabric. Men's and boys' shirt (except work shirt) jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex outerwear shirts, such as T-shirts and sweatshirts that are sized without specific reference to gender (i.e., adult S, M, L, XL) are included in this industry.

The data published with NAICS code 315223 include the following SIC industries:

2321 Shirts, men's and boys' (pt)

2361 Girls' and children's dresses and blouses (pt)

3152231 Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing men's and boys' outerwear shirts from purchased fabric.

3152232 Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing - Jobber

Establishments engaged as men's and boys' shirt (except work shirt) jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152231	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152231010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152231020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152233	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01	315211WYWW pt...	2312000 pt	2312000 pt			
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23370 pt.	23370 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23690 pt.	23690 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23690 pt.	23690 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23840 pt.	23840 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221WYV pt.	2322002 pt.	2322002 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315222 pt.	23115 pt.	23115 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
315222 pt.	23692 pt.	23692 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	23693 pt.	23693 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	315239710 pt.	2339760 pt.	2339760 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152225 pt.	23117 pt.	23117 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152227 pt.	23851 pt.	23851 pt.	3152317YV pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319 pt.	23693 pt.	23693 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	3152319 pt.	23840 pt.	23840 pt.	3152399 pt.	23851 pt.	23851 pt.
315222W pt.	23110 pt.	23110 pt.	3152319000 pt.	2369381 pt.	2369380 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
315222W pt.	23690 pt.	23690 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23690 pt.	23690 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2341000 pt.	2341000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2342000 pt.	2342000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2369000 pt.	2369000 pt.	3152910 pt.	23410 pt.	23410 pt.
3152231010 pt.	2321300 pt.	2321300 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	3152910 pt.	23412 pt.	23412 pt.
3152231020 pt.	2361302 pt.	2361300 pt.	315231WYV pt.	2389000 pt.	2389000			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
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Men's and Boys' Cut and Sew Trousers, Slacks, and Jeans Manufacturing

1997

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1997 Economic Census

Manufacturing

Industry Series



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1997 Economic Census

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Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315224	Men's & boys' cut & sew trouser, slack, & jean mfg	200	275	44 575	775 594	39 859	74 006	624 879	3 391 355	3 839 873	7 149 105	52 327
232520	Men's & boys' trousers & slacks (pt)	N	261	42 590	735 665	38 035	70 512	591 295	3 275 097	3 737 542	6 932 879	48 678
236940	Girls' & children's outerwear, n.e.c. (pt)	N	14	1 985	39 929	1 824	3 494	33 584	116 258	102 331	216 226	3 649

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG												
United States	—	275	193	44 575	775 594	39 859	74 006	624 879	3 391 355	3 839 873	7 149 105	52 327
Alabama	—	10	9	2 667	37 447	2 407	4 101	31 433	158 031	121 948	277 075	2 670
Arkansas	—	9	9	2 500	41 167	2 373	4 266	38 784	112 660	74 565	187 056	1 777
California	—	55	34	5 014	93 369	4 505	8 395	69 443	804 202	1 113 801	1 898 188	4 280
Florida	—	7	5	872	22 847	620	1 219	9 261	87 178	130 805	218 784	2 994
Georgia	1	20	13	3 171	49 736	2 787	5 285	43 196	166 341	110 789	276 360	4 528
Kentucky	—	15	10	1 639	22 224	1 521	2 823	19 196	40 755	26 063	62 165	226
Mississippi	2	13	10	2 869	36 035	2 528	5 237	30 030	125 681	166 903	282 070	2 011
Missouri	—	13	13	2 119	27 253	1 968	3 618	23 949	44 802	44 021	88 348	2 475
New York	—	18	2	276	8 582	170	372	4 614	19 201	91 044	106 623	325
Pennsylvania	5	12	6	996	20 100	927	1 864	17 396	42 508	31 136	73 410	1 354
Tennessee	—	17	17	3 446	62 406	3 163	5 596	49 232	165 165	270 388	433 009	6 718

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG		315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG—Con.	
Companies ¹	number.. 200	3152241, Men's & boys' cut & sew trouser, slack, & jean mfg—manufacturer—Con.	
All establishments	number.. 275	Production workers, average for year	number.. 33 897
Establishments with 1 to 19 employees	number.. 82	Production workers on March 12	number.. 34 589
Establishments with 20 to 99 employees	number.. 76	Production workers on May 12	number.. 34 200
Establishments with 100 employees or more	number.. 117	Production workers on August 12	number.. 33 872
All employees	number.. 44 575	Production workers on November 12	number.. 32 927
Total compensation ²	\$1,000.. 1 015 008	Production-worker hours	1,000.. 62 035
Annual payroll	\$1,000.. 775 594	Production-worker wages	\$1,000.. 519 059
Total fringe benefits	\$1,000.. 239 414	Total cost of materials	\$1,000.. 1 659 847
Production workers, average for year	number.. 39 859	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 388 672
Production workers on March 12	number.. 40 633	Cost of resales	\$1,000.. 51 547
Production workers on May 12	number.. 40 119	Cost of fuels	\$1,000.. 8 236
Production workers on August 12	number.. 39 783	Cost of purchased electricity	\$1,000.. 18 292
Production workers on November 12	number.. 38 901	Cost of contract work	\$1,000.. 193 100
Production-worker hours	1,000.. 74 006	Quantity of electricity purchased for heat and power	1,000 kWh.. 329 432
Production-worker wages	\$1,000.. 624 879	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 3 839 873	Total value of shipments	\$1,000.. 3 459 675
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 798 922	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 180 460	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 12 885	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 24 978	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 822 628	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 427 039	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 7 149 105	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 5 658 257	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 1 242 054	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 248 794	Coverage ratio	percent.. X
Value of resales	\$1,000.. 248 693	Value added	\$1,000.. 1 842 755
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 300 835
Other miscellaneous receipts	\$1,000.. 101	Finished goods inventories, beginning of year	\$1,000.. 150 966
Primary products specialization ratio	percent.. 82	Work-in-process inventories, beginning of year	\$1,000.. 81 331
Value of primary products shipments made in all industries	\$1,000.. 6 591 679	Materials and supplies inventories, beginning of year	\$1,000.. 68 538
Value of primary products shipments made in this industry	\$1,000.. 5 658 257	Total inventories, end of year	\$1,000.. 356 110
Value of primary products shipments made in other industries	\$1,000.. 933 422	Finished goods inventories, end of year	\$1,000.. 175 073
Coverage ratio	percent.. 85	Work-in-process inventories, end of year	\$1,000.. 100 151
Value added	\$1,000.. 3 391 355	Materials and supplies inventories, end of year	\$1,000.. 80 886
Total inventories, beginning of year	\$1,000.. 644 969	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 305 742	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 153 277	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 185 300	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 746 454	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 344 708	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 197 084	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 204 662	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 611 266	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 52 327	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 10 192	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 42 135	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 16 320	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 647 273	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 46 097	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 23 494	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 14 620	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 8 874	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 4 240	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 5 038	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 3 489	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 3 087	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 676		
Response coverage ratio ⁴	percent.. 83	3152242, Men's & boys' cut & sew trouser, slack, & jean mfg—jobber	
Cost of purchased advertising services ³	\$1,000.. 17 586	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. 83	All establishments	number.. 37
Cost of purchased software and other data processing services ³	\$1,000.. 7 476	Establishments with 1 to 19 employees	number.. 13
Response coverage ratio ⁴	percent.. 83	Establishments with 20 to 99 employees	number.. 9
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 961	Establishments with 100 employees or more	number.. 15
Response coverage ratio ⁴	percent.. 83	All employees	number.. 7 339
		Total compensation ²	\$1,000.. 180 374
3152241, Men's & boys' cut & sew trouser, slack, & jean mfg—manufacturer		Annual payroll	\$1,000.. 147 072
Companies ¹	number.. N	Total fringe benefits	\$1,000.. 33 302
All establishments	number.. 238	Production workers, average for year	number.. 5 962
Establishments with 1 to 19 employees	number.. 69	Production workers on March 12	number.. 6 044
Establishments with 20 to 99 employees	number.. 67	Production workers on May 12	number.. 5 919
Establishments with 100 employees or more	number.. 102	Production workers on August 12	number.. 5 911
All employees	number.. 37 236	Production workers on November 12	number.. 5 974
Total compensation ²	\$1,000.. 834 634	Production-worker hours	1,000.. 11 971
Annual payroll	\$1,000.. 628 522	Production-worker wages	\$1,000.. 105 820
Total fringe benefits	\$1,000.. 206 112		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG—Con.		315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG—Con.	
3152242, Men's & boys' cut & sew trouser, slack, & jean mfg—jobber—Con.		3152242, Men's & boys' cut & sew trouser, slack, & jean mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	2 180 026	Finished goods inventories, end of year	\$1,000..
Cost of resales	1 410 250	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	128 913	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	4 649	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	6 686	Total capital expenditures (new and used)	\$1,000..
	629 528	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power ...	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	\$1,000..	Total rental payments ²	\$1,000..
Secondary products value of shipments	\$1,000..	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	\$1,000..	Machinery and equipment rental payments ²	\$1,000..
Value of resales	\$1,000..	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	\$1,000..	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	\$1,000..	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	\$1,000..	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315224, MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG												
All establishments	-	275	193	44 575	775 594	39 859	74 006	624 879	3 391 355	3 839 873	7 149 105	52 327
Establishments with 1 to 4 employees	3	39	-	78	1 963	62	114	1 422	5 206	9 483	14 786	145
Establishments with 5 to 9 employees	3	25	-	173	4 050	134	233	2 387	11 156	15 050	26 263	179
Establishments with 10 to 19 employees	1	18	-	246	4 446	193	310	3 497	21 458	49 633	70 201	276
Establishments with 20 to 49 employees	3	32	32	1 052	17 802	822	1 553	12 623	61 066	53 403	114 613	987
Establishments with 50 to 99 employees	1	44	44	3 305	49 628	2 946	4 909	37 346	107 998	87 102	197 765	1 817
Establishments with 100 to 249 employees	1	56	56	8 456	133 435	7 742	14 197	105 275	286 755	397 795	683 800	7 757
Establishments with 250 to 499 employees	1	37	37	13 483	249 109	11 893	22 317	191 858	961 991	911 827	1 842 008	17 912
Establishments with 500 to 999 employees	-	21	21	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	3	3	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	24	-	148	2 276	139	240	2 162	6 585	4 053	10 672	159

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315224	Men's & boys' cut & sew trouser, slack, & jean mfg	275	44 575	775 594	39 859	74 006	624 879	3 391 355	3 839 873	7 149 105	52 327
3152241	Men's, junior boys', and little boys' separate dress and sport trousers, pants, and slacks, including little boys' play garments	109	18 745	336 739	16 266	29 448	239 012	1 580 985	1 933 871	3 479 307	22 820
3152243	Men's and junior boys' jeans, including dungarees and jean-cut casual slacks	107	25 439	431 728	23 259	43 996	380 172	1 796 792	1 897 520	3 647 660	29 156

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315224	Men's and boys' cut and sew trousers, slacks and jeans	N	X	X	6 591 679	N	X	X	N
3152241	Men's, junior boys', and little boys' separate dress and sport trousers, pants, and slacks, including little boys' play garments @	N	X	X	2 795 896	N	X	X	N
31522410	Men's, junior boys', and little boys' separate dress and sport trousers, pants, and slacks, including little boys' play garments	N	X	X	2 795 896	N	X	X	N
3152241010	Men's and junior boys' separate dress and sport trousers, pants, and slacks, including military-type uniform pants (except jeans and jean-cut casual slacks)	N	X	X	2 795 896	N	X	X	N
3152241020	Little boys' play garments, including slacks, playsuits, playshorts, dungarees, jeans, and bibbed overalls	137	X	X	2 340 550	N	X	X	N
3152241Y	Men's, junior boys', and little boys' separate dress and sport trousers, pants, and slacks, including little boys' play garments, nsk	N	X	X	455 346	N	X	X	N
3152241YWV	Men's, junior boys', and little boys' separate dress and sport trousers, pants, and slacks, including little boys' play garments, nsk	N	X	X	-	N	X	X	N
3152243	Men's and junior boys' jeans, including dungarees and jean-cut casual slacks @	N	X	X	-	N	X	X	N
31522430	Men's and junior boys' jeans, including dungarees and jean-cut casual slacks	N	X	X	3 774 290	N	X	X	N
3152243000	Men's and junior boys' jeans, including dungarees and jean-cut casual slacks	97	X	X	3 774 290	84	X	X	3 870 557
315224W	Men's and boys' cut and sew trousers, slacks and jeans, nsk, total	N	X	X	21 493	N	X	X	N
315224WY	Men's and boys' cut and sew trousers, slacks and jeans, nsk, total	N	X	X	21 493	N	X	X	N
315224WYWW	Men's and boys' cut and sew trousers, slacks and jeans, nsk, for nonadministrative-record establishments	N	X	X	11 176	N	X	X	N
315224WYWY	Men's and boys' cut and sew trousers, slacks and jeans, nsk, for administrative-record establishments	N	X	X	10 317	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152241	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' SEPARATE DRESS AND SPORT TROUSERS, PANTS, AND SLACKS, INCLUDING LITTLE BOYS' PLAY GARMENTS @		
	United States	2 795 896	N
	Alabama	108 446	N
	California	832 886	N
	Georgia	105 143	N
	Illinois	7 405	N
	Kentucky	24 160	N
	Maryland	19 130	N
	Massachusetts	33 027	N
	Mississippi	120 620	N
	New Jersey	8 169	N
	New York	78 130	N

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152241	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' SEPARATE DRESS AND SPORT TROUSERS, PANTS, AND SLACKS, INCLUDING LITTLE BOYS' PLAY GARMENTS @— Con.		
	North Carolina	36 719	N
	Ohio	17 032	N
	Oklahoma	7 254	N
	Pennsylvania	114 319	N
	Tennessee	220 033	N
	Texas	565 973	N
Virginia	51 141	N	
3152243	MEN'S AND JUNIOR BOYS' JEANS, INCLUDING DUNGAREES AND JEAN-CUT CASUAL SLACKS @		
	United States	3 774 290	3 870 557
	Arkansas	109 198	N
	California	688 324	N
	Kentucky	90 429	87 293
	Mississippi	150 552	124 741
	Missouri	44 645	13 876
	Tennessee	194 521	367 474
	Texas	1 148 722	987 231

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315224	MEN'S & BOYS' CUT & SEW TROUSER, SLACK, & JEAN MFG				
31321023	Broadwoven fabrics (piece goods)	X	1 076 780	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	D	X	N
31324000	Knit fabrics	X	55 173	X	N
31311003	Yarn, all fibers	X	28 994	X	N
33999301	Buttons, zippers, and slide fasteners	X	130 857	X	N
00970099	All other materials and components, parts, containers, and supplies	X	185 203	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	D	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315224 MEN'S AND BOYS' CUT AND SEW TROUSER, SLACK, AND JEAN MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' jeans, dungarees, and other separate trousers and slacks (except work pants) from purchased fabric. Men's and boys' trouser, slack, and jean jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315224 include the following SIC industries:

- 2325 Men's and boys' trousers and slacks (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)

3152241 Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing men's and boys' jeans, dungarees, and other separate trousers and slacks (except work pants) from purchased fabric.

3152242 Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing - Jobbers

Establishments engaged as men's and boys' trouser, slack, and jean jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152241	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152243	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252581				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
			315211W pt.....	23850 pt	23850 pt	315212W pt.....	23610 pt	23610 pt
3151915	22536	22536				315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600	315211W pt.....	23950 pt	23950 pt	315212W pt.....	23690 pt	23690 pt
			315211WYWW pt...	2310000 pt	2310000 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2325000 pt	2325000 pt	315212W pt.....	2385000 pt	2385000 pt
3151919	2253B	2253B	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	2390000 pt	2390000 pt
3151919100	2253B00	2253B00	315211WYWW pt...	2329000 pt	2329000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2330000 pt	2330000 pt	315212W pt.....	2395000 pt	2395000 pt
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C110	2253D01	2253D01	315211WYWW pt...	2310000 pt	2310000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	2395000 pt	2395000 pt
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	2395000 pt	2395000 pt
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	2395000 pt	2395000 pt
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt	315212W pt.....	2395000 pt	2395000 pt
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	2395000 pt	2395000 pt
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	2395000 pt	2395000 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	2395000 pt	2395000 pt
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
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			3159993100.....	2385190.....	2385198 pt	315999WYVW pt...	2396002 pt.....	2396002 pt
						315999WYVW pt...	2399002 pt.....	2399002 pt
						315999WYVW pt...	5699002.....	5699000 pt

Men's and Boys' Cut and Sew Work Clothing Manufacturing

1997

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1997 Economic Census

Manufacturing

Industry Series



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U.S. Department of Commerce

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and Statistics

Administration

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315225	Men's & boys' cut & sew work clothing mfg	149	211	23 335	346 789	19 867	34 424	252 274	998 403	904 105	1 868 998	29 921
232620	Men's & boys' work clothing (pt)	N	211	23 335	346 789	19 867	34 424	252 274	998 403	904 105	1 868 998	29 921

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG												
United States	1	211	138	23 335	346 789	19 867	34 424	252 274	998 403	904 105	1 868 998	29 921
California	2	25	9	1 120	18 521	1 005	2 067	13 900	46 865	46 025	91 251	858
Kentucky	-	20	20	4 068	65 592	3 495	6 192	48 608	153 658	177 159	329 356	3 864
Mississippi	2	22	21	3 880	52 143	3 353	5 523	40 232	181 723	166 182	345 230	3 989
Missouri	-	9	7	954	13 751	752	1 307	10 881	22 514	22 198	45 917	353
New York	7	14	2	341	3 818	325	441	3 359	9 061	5 742	14 903	890
Oklahoma	1	8	4	234	3 073	215	313	2 651	19 328	11 007	30 399	33
Tennessee	-	20	18	3 605	57 448	3 222	5 694	45 035	187 887	150 485	334 464	3 435
Texas	-	15	11	3 149	40 391	2 669	4 517	28 347	176 149	111 533	260 997	1 213

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG		315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG—Con.	
Companies ¹	number.. 149	3152251, Men's & boys' cut & sew work clothing mfg—manufacturer—Con.	
All establishments	number.. 211	Production workers, average for year	number.. 19 215
Establishments with 1 to 19 employees	number.. 73	Production workers on March 12	number.. 19 240
Establishments with 20 to 99 employees	number.. 54	Production workers on May 12	number.. 19 198
Establishments with 100 employees or more	number.. 84	Production workers on August 12	number.. 19 387
All employees	number.. 23 335	Production workers on November 12	number.. 19 035
Total compensation ²	\$1,000.. 430 689	Production-worker hours	1,000.. 33 311
Annual payroll	\$1,000.. 346 789	Production-worker wages	\$1,000.. 240 702
Total fringe benefits	\$1,000.. 83 900	Total cost of materials	\$1,000.. 791 805
Production workers, average for year	number.. 19 867	Cost of materials, parts, containers, etc., consumed	\$1,000.. 734 824
Production workers on March 12	number.. 19 889	Cost of resales	\$1,000.. 14 370
Production workers on May 12	number.. 19 855	Cost of fuels	\$1,000.. 3 686
Production workers on August 12	number.. 20 044	Cost of purchased electricity	\$1,000.. 10 201
Production workers on November 12	number.. 19 680	Cost of contract work	\$1,000.. 28 744
Production-worker hours	1,000.. 34 424	Quantity of electricity purchased for heat and power	1,000 kWh.. 190 513
Production-worker wages	\$1,000.. 252 274	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 904 105	Total value of shipments	\$1,000.. 1 694 000
Cost of materials, parts, containers, etc., consumed	\$1,000.. 841 177	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 15 813	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 3 850	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 11 197	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 32 068	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 206 255	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 1 868 998	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 1 630 125	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 221 361	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 17 512	Coverage ratio	percent.. X
Value of resales	\$1,000.. 17 512	Value added	\$1,000.. 935 192
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 238 759
Other miscellaneous receipts	\$1,000.. -	Finished goods inventories, beginning of year	\$1,000.. 105 001
Primary products specialization ratio	percent.. 88	Work-in-process inventories, beginning of year	\$1,000.. 38 784
Value of primary products shipments made in all industries	\$1,000.. 1 849 750	Materials and supplies inventories, beginning of year	\$1,000.. 94 974
Value of primary products shipments made in this industry	\$1,000.. 1 630 125	Total inventories, end of year	\$1,000.. 274 831
Value of primary products shipments made in other industries	\$1,000.. 219 625	Finished goods inventories, end of year	\$1,000.. 123 999
Coverage ratio	percent.. 88	Work-in-process inventories, end of year	\$1,000.. 52 783
Value added	\$1,000.. 998 403	Materials and supplies inventories, end of year	\$1,000.. 98 049
Total inventories, beginning of year	\$1,000.. 249 591	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 108 008	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 41 075	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 100 508	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 289 069	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 127 604	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 54 989	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 106 476	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 238 395	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 29 921	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 11 973	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 17 948	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 5 234	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 263 082	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 20 990	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 10 493	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 5 678	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 4 815	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 902	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 93	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 7 546	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 93	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 2 196	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 93	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 580	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 93	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 663		
Response coverage ratio ⁴	percent.. 93		
Cost of purchased advertising services ³	\$1,000.. 1 389		
Response coverage ratio ⁴	percent.. 93		
Cost of purchased software and other data processing services ³	\$1,000.. 986		
Response coverage ratio ⁴	percent.. 93		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 203		
Response coverage ratio ⁴	percent.. 93		
3152251, Men's & boys' cut & sew work clothing mfg—manufacturer		3152252, Men's & boys' cut & sew work clothing mfg—jobber	
Companies ¹	number.. N	Companies ¹	number.. N
All establishments	number.. 200	All establishments	number.. 11
Establishments with 1 to 19 employees	number.. 71	Establishments with 1 to 19 employees	number.. 2
Establishments with 20 to 99 employees	number.. 48	Establishments with 20 to 99 employees	number.. 6
Establishments with 100 employees or more	number.. 81	Establishments with 100 employees or more	number.. 3
All employees	number.. 22 574	All employees	number.. 761
Total compensation ²	\$1,000.. 411 967	Total compensation ²	\$1,000.. 18 722
Annual payroll	\$1,000.. 331 412	Annual payroll	\$1,000.. 15 377
Total fringe benefits	\$1,000.. 80 555	Total fringe benefits	\$1,000.. 3 345
Production workers, average for year	number.. 652	Production workers, average for year	number.. 652
Production workers on March 12	number.. 649	Production workers on March 12	number.. 649
Production workers on May 12	number.. 657	Production workers on May 12	number.. 657
Production workers on August 12	number.. 657	Production workers on August 12	number.. 657
Production workers on November 12	number.. 645	Production workers on November 12	number.. 645
Production-worker hours	1,000.. 1 113	Production-worker hours	1,000.. 1 113
Production-worker wages	\$1,000.. 11 572	Production-worker wages	\$1,000.. 11 572

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG—Con.		315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG—Con.	
3152252, Men's & boys' cut & sew work clothing mfg—jobber—Con.		3152252, Men's & boys' cut & sew work clothing mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	112 300	Finished goods inventories, end of year	\$1,000..
Cost of resales	106 353	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	1 443	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	184	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	996	Total capital expenditures (new and used)	\$1,000..
	3 324	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	15 742	Total retirements ²	\$1,000..
	-	Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	174 998	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
	X	Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
	63 211	Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	10 832	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	3 007	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	2 291	Response coverage ratio ⁴	percent..
	5 534		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315225, MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG												
All establishments	1	211	138	23 335	346 789	19 867	34 424	252 274	998 403	904 105	1 868 998	29 921
Establishments with 1 to 4 employees	9	35	—	78	1 039	73	114	867	2 785	2 620	5 422	81
Establishments with 5 to 9 employees	5	20	—	153	2 819	123	226	1 983	9 220	7 649	16 778	D
Establishments with 10 to 19 employees	7	18	—	234	3 088	190	305	2 171	12 850	6 767	14 119	D
Establishments with 20 to 49 employees	4	25	25	789	12 519	623	1 044	8 264	33 759	22 955	54 833	509
Establishments with 50 to 99 employees	4	29	29	2 125	30 529	1 861	2 960	22 563	75 902	183 476	258 480	3 971
Establishments with 100 to 249 employees	—	61	61	10 422	151 675	8 972	15 226	113 782	427 977	336 565	743 008	8 001
Establishments with 250 to 499 employees	—	18	18	6 057	95 468	5 257	9 416	70 123	327 517	229 429	555 074	5 090
Establishments with 500 to 999 employees	1	5	5	3 477	49 652	2 768	5 133	32 521	108 393	114 644	221 284	1 881
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	39	—	289	3 990	263	442	3 265	10 397	9 731	20 192	290

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315225	Men's & boys' cut & sew work clothing mfg	211	23 335	346 789	19 867	34 424	252 274	998 403	904 105	1 868 998	29 921
3152251	Men's and junior boys' work shirts ...	37	5 985	84 327	5 004	8 251	59 999	236 243	191 924	430 403	4 292
3152253	Men's and junior boys' work clothing (except shirts and jeans), and washable service apparel, including work pants, overalls, work jackets ..	98	16 273	249 190	13 999	25 032	182 612	731 967	687 902	1 388 697	14 671

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315225	Men's and boys' cut and sew work clothing	N	X	X	1 849 750	N	X	X	N
3152251	Men's and junior boys' work shirts @	N	X	X	498 348	N	X	X	392 242
31522510	Men's and junior boys' work shirts	N	X	X	498 348	N	X	X	N
3152251000	Men's and junior boys' work shirts	45	X	X	498 348	44	X	X	392 242
3152253	Men's and junior boys' work clothing (except shirts and jeans) and washable service apparel, including work pants, overalls, and work jackets @	N	X	X	1 301 458	N	X	X	957 753
31522530	Men's and junior boys' work clothing (except shirts and jeans) and washable service apparel, including work pants, overalls, and work jackets	N	X	X	1 301 458	N	X	X	N
3152253000	Men's and junior boys' work clothing (except shirts and jeans) and washable service apparel, including work pants, overalls, and work jackets	84	X	X	1 301 458	86	X	X	957 753
315225W	Men's and boys' cut and sew work clothing, nsk, total	N	X	X	49 944	N	X	X	N
315225WY	Men's and boys' cut and sew work clothing, nsk, total	N	X	X	49 944	N	X	X	N
315225WYWW	Men's and boys' cut and sew work clothing, nsk, for nonadministrative-record establishments	N	X	X	28 371	N	X	X	N
315225WYWY	Men's and boys' cut and sew work clothing, nsk, for administrative-record establishments	N	X	X	21 573	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152251	MEN'S AND JUNIOR BOYS' WORK SHIRTS @		
	United States	498 348	392 242
	California	54 679	5 655
	Illinois	2 399	N
	Kentucky	61 767	19 560
	Mississippi	67 673	112 152
	North Carolina	16 387	N
	Tennessee	100 013	80 032
3152253	MEN'S AND JUNIOR BOYS' WORK CLOTHING (EXCEPT SHIRTS AND JEANS) AND WASHABLE SERVICE APPAREL, INCLUDING WORK PANTS, OVERALLS, AND WORK JACKETS @		
	United States	1 301 458	957 753
	Alabama	27 181	85 414
	Arkansas	2 802	N
	California	60 212	27 172
	Georgia	65 523	92 662
	Illinois	42 349	N
	Indiana	13 591	N
	Kentucky	239 707	135 427
	Louisiana	4 617	N
	Mississippi	229 043	147 796
	Missouri	37 319	39 717
	New York	5 462	2 143
	Pennsylvania	2 697	N
	Tennessee	200 318	144 920

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315225	MEN'S & BOYS' CUT & SEW WORK CLOTHING MFG				
31321023	Broadwoven fabrics (piece goods)	X	542 558	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	D	X	N
31324000	Knit fabrics	X	18 815	X	N
31311003	Yarn, all fibers	X	D	X	N
33999301	Buttons, zippers, and slide fasteners	X	73 418	X	N
00970099	All other materials and components, parts, containers, and supplies	X	57 576	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	53 468	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315225 MEN'S AND BOYS' CUT AND SEW WORK CLOTHING MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' work shirts, work pants (excluding jeans and dungarees), other work clothing, and washable service apparel from purchased fabric. Men's and boys' work clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are washable service apparel, laboratory coats, work shirts, work pants (except jeans and dungarees), and hospital apparel.

The data published with NAICS code 315225 include the following SIC industry:

2326 Men's and boys' work clothing (pt)

3152251 Men's and Boys' Cut and Sew Work Clothing Manufacturing Manufacturer

Establishments primarily engaged in manufacturing men's and boys' work shirts, work pants (excluding jeans and dungarees), other work clothing, and washable service apparel from purchased fabric.

3152252 Men's and Boys' Cut and Sew Work Clothing Manufacturing - Jobbers

Establishments engaged as men's and boys' work clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. **Products Statistics (Tables 6a and 6b)**

NAICS product code	Footnote
@3152251	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152253	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. **Materials Consumed by Kind (Table 7)**

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
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315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
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3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
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3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
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3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
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			315211H100 pt	2395900 pt	2395800 pt			
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3151195131	2252651	2252651						
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315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
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3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
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3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
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			315211WYWW pt...	2329000 pt	2329000 pt			
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315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt	2329000 pt			
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315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
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3152221 pt.....	23692 pt.....	23692 pt.....	3152315000.....	2342100.....	2342100.....	3152395YV pt...	2339500 pt.....	2339500 pt.....
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1997 Economic Census

Manufacturing

Industry Series



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U.S. Department of Commerce
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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315228	Men's & boys' cut & sew other outerwear mfg	434	481	25 142	424 522	20 999	38 867	301 831	906 107	1 016 582	1 909 737	41 746
232920	Men's & boys' clothing, n.e.c. (pt)	N	469	23 957	402 393	19 993	36 557	286 994	862 266	956 431	1 804 678	40 704
236950	Girls' & children's outerwear, n.e.c. (pt)	N	6	929	15 964	795	1 963	11 954	33 112	52 347	86 471	778
238540	Waterproof outer garments (pt)	N	6	256	6 165	211	347	2 883	10 729	7 804	18 588	264

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG												
United States	2	481	228	25 142	424 522	20 999	38 867	301 831	906 107	1 016 582	1 909 737	41 746
Alabama	-	10	5	839	12 246	657	1 319	8 114	21 397	32 540	51 658	608
California	2	94	40	3 331	73 175	2 698	5 491	43 466	206 122	188 045	386 441	11 581
Georgia	-	14	8	1 728	26 788	1 424	2 566	18 282	85 462	71 364	146 516	1 888
Massachusetts	2	4	1	103	1 653	96	210	1 447	3 106	2 698	6 038	56
Minnesota	2	9	5	251	3 964	165	305	2 265	6 972	6 235	12 747	238
Missouri	5	16	14	1 243	19 914	1 056	1 897	13 989	40 437	37 622	78 290	1 647
New Jersey	4	14	6	792	17 577	492	1 075	11 713	35 680	32 174	66 508	731
New York	5	78	32	2 173	36 739	1 815	3 184	24 924	86 112	95 612	185 150	4 514
Ohio	-	7	5	444	8 007	393	866	6 837	15 000	12 135	23 036	1 139
Pennsylvania	3	23	9	785	12 224	665	1 209	8 824	27 447	25 372	52 976	1 091
Tennessee	1	13	5	713	12 114	639	1 216	9 253	19 350	26 556	45 929	525
Texas	-	15	9	928	12 418	768	1 278	9 796	19 051	31 191	52 689	506

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG		315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG—Con.	
Companies ¹	number.. 434	3152281, Men's & boys' cut & sew other outerwear mfg—manufacturer—Con.	
All establishments	number.. 481	Production workers, average for year	number.. 19 871
Establishments with 1 to 19 employees	number.. 253	Production workers on March 12	number.. 20 159
Establishments with 20 to 99 employees	number.. 153	Production workers on May 12	number.. 20 176
Establishments with 100 employees or more	number.. 75	Production workers on August 12	number.. 19 721
All employees	number.. 25 142	Production workers on November 12	number.. 19 428
Total compensation ²	\$1,000.. 510 436	Production-worker hours	1,000.. 36 638
Annual payroll	\$1,000.. 424 522	Production-worker wages	\$1,000.. 280 460
Total fringe benefits	\$1,000.. 85 914	Total cost of materials	\$1,000.. 764 971
Production workers, average for year	number.. 20 999	Cost of materials, parts, containers, etc., consumed	\$1,000.. 586 981
Production workers on March 12	number.. 21 201	Cost of resales, parts, containers, etc., consumed	\$1,000.. 101 577
Production workers on May 12	number.. 21 228	Cost of fuels	\$1,000.. 3 021
Production workers on August 12	number.. 20 917	Cost of purchased electricity	\$1,000.. 8 655
Production workers on November 12	number.. 20 650	Cost of contract work	\$1,000.. 64 737
Production-worker hours	1,000.. 38 867	Quantity of electricity purchased for heat and power	1,000 kWh.. 130 192
Production-worker wages	\$1,000.. 301 831	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 1 016 582	Total value of shipments	\$1,000.. 1 472 757
Cost of materials, parts, containers, etc., consumed	\$1,000.. 707 550	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 140 544	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 3 087	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 9 304	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 156 097	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 246 805	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 1 909 737	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 1 412 348	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 308 952	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 188 437	Coverage ratio	percent.. X
Value of resales	\$1,000.. 177 886	Value added	\$1,000.. 698 314
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 319 601
Other miscellaneous receipts	\$1,000.. 10 551	Finished goods inventories, beginning of year	\$1,000.. 152 184
Primary products specialization ratio	percent.. 82	Work-in-process inventories, beginning of year	\$1,000.. 59 466
Value of primary products shipments made in all industries	\$1,000.. 2 292 208	Materials and supplies inventories, beginning of year	\$1,000.. 107 951
Value of primary products shipments made in this industry	\$1,000.. 1 412 348	Total inventories, end of year	\$1,000.. 309 071
Value of primary products shipments made in other industries	\$1,000.. 879 860	Finished goods inventories, end of year	\$1,000.. 151 208
Coverage ratio	percent.. 61	Work-in-process inventories, end of year	\$1,000.. 50 970
Value added	\$1,000.. 906 107	Materials and supplies inventories, end of year	\$1,000.. 106 893
Total inventories, beginning of year	\$1,000.. 411 373	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 196 194	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 69 435	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 145 744	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 422 823	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 214 886	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 63 695	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 144 242	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 268 124	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 41 746	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 13 398	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 28 348	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 7 470	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 302 400	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 28 482	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 22 798	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 13 199	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 9 599	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 039	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 4 040	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 2 147	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 1 489	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 184		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased advertising services ³	\$1,000.. 4 971		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased software and other data processing services ³	\$1,000.. 1 493		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 389		
Response coverage ratio ⁴	percent.. 67		
3152281, Men's & boys' cut & sew other outerwear mfg—manufacturer		3152282, Men's & boys' cut & sew other outerwear mfg—jobber	
Companies ¹	number.. N	Companies ¹	number.. N
All establishments	number.. 459	All establishments	number.. 22
Establishments with 1 to 19 employees	number.. 243	Establishments with 1 to 19 employees	number.. 10
Establishments with 20 to 99 employees	number.. 147	Establishments with 20 to 99 employees	number.. 6
Establishments with 100 employees or more	number.. 69	Establishments with 100 employees or more	number.. 6
All employees	number.. 23 469	All employees	number.. 1 673
Total compensation ²	\$1,000.. 454 645	Total compensation ²	\$1,000.. 55 791
Annual payroll	\$1,000.. 377 078	Annual payroll	\$1,000.. 47 444
Total fringe benefits	\$1,000.. 77 567	Total fringe benefits	\$1,000.. 8 347
		Production workers, average for year	number.. 1 128
		Production workers on March 12	number.. 1 042
		Production workers on May 12	number.. 1 052
		Production workers on August 12	number.. 1 196
		Production workers on November 12	number.. 1 222
		Production-worker hours	1,000.. 2 229
		Production-worker wages	\$1,000.. 21 371

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG—Con.		315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG—Con.	
3152282, Men's & boys' cut & sew other outerwear mfg—jobber—Con.		3152282, Men's & boys' cut & sew other outerwear mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	251 611	Finished goods inventories, end of year	\$1,000..
Cost of resales	120 569	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	38 967	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	66	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	649	Total capital expenditures (new and used)	\$1,000..
	91 360	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	X	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	91 772	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	44 010	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	9 969	Response coverage ratio ⁴	percent..
	37 793		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315228, MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG												
All establishments	2	481	228	25 142	424 522	20 999	38 867	301 831	906 107	1 016 582	1 909 737	41 746
Establishments with 1 to 4 employees	8	133	—	258	4 561	245	463	3 494	10 057	9 490	19 892	635
Establishments with 5 to 9 employees	5	53	—	345	6 014	277	494	3 696	18 933	26 631	46 673	657
Establishments with 10 to 19 employees	4	67	—	913	13 822	730	1 136	9 450	30 260	51 818	82 468	1 343
Establishments with 20 to 49 employees	3	94	94	3 191	52 266	2 690	4 990	36 804	139 130	143 602	284 228	4 640
Establishments with 50 to 99 employees	1	59	59	4 163	66 955	3 476	6 200	48 495	147 083	121 249	268 457	5 050
Establishments with 100 to 249 employees	2	57	57	8 265	143 753	6 843	12 717	101 577	289 599	351 154	635 650	12 040
Establishments with 250 to 499 employees	1	14	14	4 399	75 738	3 630	6 632	49 167	160 033	216 073	369 850	7 839
Establishments with 500 to 999 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	4	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	114	—	695	9 196	601	884	7 048	17 782	16 545	35 159	1 183

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315228	Men's & boys' cut & sew other outerwear mfg	481	25 142	424 522	20 999	38 867	301 831	906 107	1 016 582	1 909 737	41 746
3152281	Men's, junior boys', and little boys' heavy nontailored outerwear coats, jackets, and vests, including mackinaws, meltons, and lumber jackets	83	6 960	110 501	5 904	11 142	81 484	216 815	273 962	492 047	8 170
3152283	Men's, junior boys', and little boys' shorts, swimwear, sweaters and other outerwear	119	10 944	191 294	9 196	17 344	128 467	413 969	510 710	912 571	15 089
3152285	Men's, junior boys', and little boys' waterproof outer garments, including smocks, plastics or rubberized	5	167	3 822	135	208	1 915	5 772	3 761	9 619	250

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315228	Other men's and boys' cut and sew outerwear	N	X	X	2 292 208	N	X	X	N
3152281	Men's, junior boys', and little boys' heavy nontailored outerwear coats, jackets, and vests, including mackinaws, meltons, and lumber jackets (except ski) @	N	X	X	556 492	N	X	X	596 185
31522810	Men's and junior boys' heavy nontailored outerwear coats, jackets, and vests, including mackinaws, meltons, and lumber jackets (except ski wear)	N	X	X	556 492	N	X	X	N
3152281000	Men's and junior boys' heavy nontailored outerwear coats, jackets, and vests, including mackinaws, meltons, and lumber jackets (except ski wear)	81	X	X	556 492	96	X	X	596 185
3152283	Men's, junior boys', and little boys' shorts, swimwear, sweaters and other outerwear @	N	X	X	1 358 315	N	X	X	N
31522830	Men's, junior boys', and little boys' swimwear and shorts, including dress and athletic	N	X	X	724 894	N	X	X	N
3152283010	Men's and junior boys' swimwear and shorts, including dress and athletic	110	X	X	638 207	106	X	X	621 122
3152283020	Little boys' other outerwear, including shorts and swimwear	25	X	X	86 687	N	X	X	N
31522831	Men's, junior boys', and little boys' sweaters, and men's and junior boys' other outerwear (except swimwear and shorts)	N	X	X	602 402	N	X	X	N
3152283130	Men's and junior boys' sweaters, including sweater vests \$	38	X	X	D	23	X	X	85 955
3152283140	Little boys' sweaters, including sweater vests \$	2	X	X	D	N	X	X	N
3152283150	Men's and junior boys' other outerwear, including ski and snow pants, leggings, light outerwear jackets, etc.	109	X	X	514 488	138	X	X	558 594
3152283Y	Men's, junior boys', and little boys' shorts, swimwear, sweaters and other outerwear, nsk	N	X	X	31 019	N	X	X	N
3152283YVV	Men's, junior boys', and little boys' shorts, swimwear, sweaters and other outerwear, nsk	N	X	X	31 019	N	X	X	N
3152285	Men's, junior boys', and little boys' waterproof outerwear, including smocks, plastics or rubberized	N	X	X	9 177	N	X	X	N
31522851	Men's, junior boys', and little boys' waterproof outerwear, including smocks, plastics or rubberized	N	X	X	9 177	N	X	X	N
3152285100	Men's, junior boys', and little boys' waterproof outerwear, including smocks, plastics and rubberized	7	X	X	9 177	N	X	X	N
315228W	Other men's and boys' cut and sew outerwear, nsk, total	N	X	X	368 224	N	X	X	N
315228WY	Other men's and boys' cut and sew outerwear, nsk, total	N	X	X	368 224	N	X	X	N
315228WYVWW	Other men's and boys' cut and sew outerwear, nsk, total, for nonadministrative-record establishments	N	X	X	337 858	N	X	X	N
315228WYVWY	Other men's and boys' cut and sew outerwear, nsk, total, for administrative-record establishments	N	X	X	30 366	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152281	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' HEAVY NONTAILORED OUTERWEAR COATS, JACKETS, AND VESTS, INCLUDING MACKINAWs, MELTONS, AND LUMBER JACKETS (EXCEPT SKI) @		
	United States	556 492	596 185
	California	40 614	43 807
	Illinois	5 314	N
	Mississippi	29 979	48 013
	Missouri	38 842	55 092
	New York	7 612	41 204
	Pennsylvania	10 752	N
	Tennessee	82 294	72 724
	Washington	10 409	25 701
	Wisconsin	15 579	7 145
3152283	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' SHORTS, SWIMWEAR, SWEATERS AND OTHER OUTERWEAR @		
	United States	1 358 315	N
	Alabama	38 637	N
	California	276 873	N
	Florida	28 579	N
	Georgia	121 927	N
	Indiana	3 538	N
	Kansas	15 452	N
	Kentucky	49 817	N
	Massachusetts	3 600	N
	Minnesota	7 097	N
	Missouri	13 714	N
	New Jersey	40 029	N
	New York	94 972	N
	North Carolina	152 326	N
	Ohio	10 348	N
	Pennsylvania	21 463	N
	South Carolina	17 423	N
	Tennessee	81 818	N
	Texas	40 614	N
Washington	66 782	N	
3152285	MEN'S, JUNIOR BOYS', AND LITTLE BOYS' WATERPROOF OUTERGARMENTS, INCLUDING SMOCKS, PLASTICS OR RUBBERIZED		
	United States	9 177	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315228	MEN'S & BOYS' CUT & SEW OTHER OUTERWEAR MFG				
31321023	Broadwoven fabrics (piece goods)	X	271 830	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	14 829	X	N
31324000	Knit fabrics	X	148 230	X	N
31311003	Yarn, all fibers	X	19 835	X	N
33999301	Buttons, zippers, and slide fasteners	X	29 437	X	N
00970099	All other materials and components, parts, containers, and supplies	X	64 563	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	158 826	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315228 MEN'S AND BOYS' CUT AND SEW OTHER OUTERWEAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew outerwear from purchased fabric (except underwear, nightwear, shirts, suits, overcoats and tailored coats, separate trousers and slacks, and work clothing). Men's and boys' other outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex sweatpants and similar garments that are sized without specific reference to gender (i.e., adult S, M, L, XL) are also included in this industry. Examples of products made by these establishments are athletic clothing (except athletic uniforms), bathing suits, down coats, outerwear shorts, windbreakers and jackets, and jogging suits.

The data published with NAICS code 315228 include the following SIC industries:

2329 Men's and boys' clothing, n.e.c. (pt)
2369 Girls' and children's outerwear, n.e.c. (pt)
2385 Waterproof outer garments (pt)

3152281 Men's and Boys' Cut and Sew Other Outerwear Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing men's and boys' cut and sew outerwear from purchased fabric (except underwear, nightwear, shirts, suits, overcoats and tailored coats, separate trousers and slacks, and working clothing).

3152282 Men's and Boys' Cut and Sew Other Outerwear Manufacturing - Jobbers

Establishments engaged as men's and boys' other outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152281	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152283	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152283130	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152283140	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01	315211WYWW pt...	2312000 pt	2312000 pt			
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.....	23950 pt.....	23950 pt.....	315223W pt.....	23610 pt.....	23610 pt.....	3152323 pt.....	23614 pt.....	23614 pt.....
315212WYWW pt.....	2331000 pt.....	2331000 pt.....	315223WYWW pt.....	2321000 pt.....	2321000 pt.....	3152323010.....	2331400 pt.....	2331400 pt.....
315212WYWW pt.....	2335000 pt.....	2335000 pt.....	315223WYWW pt.....	2361000 pt.....	2361000 pt.....	3152323020.....	2361401.....	2361400 pt.....
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						315999WYVW pt...	5699002.....	5699000 pt

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1997

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Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing

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Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315231	Women's & girls' cut/sew lingerie & nightwear mfg	250	286	24 402	416 959	19 224	36 673	271 314	1 523 602	2 035 934	3 647 839	20 800
234140	Women's & children's underwear (pt)	N	180	13 618	215 645	11 707	22 299	158 152	600 908	707 837	1 331 312	9 438
234210	Brassieres & allied garments (pt)	N	1	D	D	D	D	D	D	D	D	D
234220	Brassieres & allied garments (pt)	N	54	7 952	151 845	5 311	9 736	82 221	833 850	1 122 093	2 016 510	8 183
236960	Girls' & children's outerwear, n.e.c. (pt)	N	1	D	D	D	D	D	D	D	D	D
238440	Robes & dressing gowns (pt) ..	N	50	2 505	42 814	2 000	4 049	27 113	83 765	192 701	281 406	2 862
238920	Apparel & accessories, n.e.c. (pt)	N	-	-	-	-	-	-	-	-	-	-

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315231, WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG												
United States	1	286	159	24 402	416 959	19 224	36 673	271 314	1 523 602	2 035 934	3 647 839	20 800
California	2	44	22	1 627	36 267	1 192	2 269	20 145	84 405	129 875	211 763	1 861
Georgia	-	14	13	4 333	68 215	3 584	6 928	51 897	268 105	328 498	605 332	4 648
Illinois	1	5	3	186	3 383	126	214	1 878	6 698	6 421	12 975	185
New Jersey	1	23	9	1 604	34 680	1 009	2 259	17 639	80 970	144 973	269 671	894
New York	2	67	23	2 245	53 626	1 639	3 089	28 007	130 236	181 428	315 772	2 847
North Carolina	-	19	14	1 563	28 412	1 202	2 305	18 676	135 063	423 082	562 868	592
Pennsylvania	-	18	14	2 446	27 783	1 927	3 271	20 409	223 851	251 334	490 916	498

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315231, WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG			
Companies ¹	number.. 250		
All establishments	number.. 286		
Establishments with 1 to 19 employees	number.. 127		
Establishments with 20 to 99 employees	number.. 96		
Establishments with 100 employees or more	number.. 63		
All employees	number.. 24 402		
Total compensation ²	\$1,000.. 507 569		
Annual payroll	\$1,000.. 416 959		
Total fringe benefits	\$1,000.. 90 610		
Production workers, average for year	number.. 19 224		
Production workers on March 12	number.. 19 804		
Production workers on May 12	number.. 19 216		
Production workers on August 12	number.. 19 037		
Production workers on November 12	number.. 18 839		
Production-worker hours	1,000.. 36 673		
Production-worker wages	\$1,000.. 271 314		
Total cost of materials	\$1,000.. 2 035 934		
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 582 480		
Cost of resales	\$1,000.. 166 413		
Cost of fuels	\$1,000.. 2 455		
Cost of purchased electricity	\$1,000.. 13 342		
Cost of contract work	\$1,000.. 271 244		
Quantity of electricity purchased for heat and power	1,000 kWh.. 213 336		
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -		
Total value of shipments	\$1,000.. 3 647 839		
Primary products value of shipments	\$1,000.. 3 330 647		
Secondary products value of shipments	\$1,000.. 107 870		
Total miscellaneous receipts	\$1,000.. 209 322		
Value of resales	\$1,000.. 206 640		
Contract receipts	\$1,000.. D		
Other miscellaneous receipts	\$1,000.. D		
Primary products specialization ratio	percent.. 96		
Value of primary products shipments made in all industries	\$1,000.. 3 529 540		
Value of primary products shipments made in this industry	\$1,000.. 3 330 647		
Value of primary products shipments made in other industries	\$1,000.. 198 893		
Coverage ratio	percent.. 94		
Value added	\$1,000.. 1 523 602		
Total inventories, beginning of year	\$1,000.. 770 210		
Finished goods inventories, beginning of year	\$1,000.. 418 778		
Work-in-process inventories, beginning of year	\$1,000.. 113 439		
Materials and supplies inventories, beginning of year	\$1,000.. 237 993		
Total inventories, end of year	\$1,000.. 664 612		
Finished goods inventories, end of year	\$1,000.. 335 871		
Work-in-process inventories, end of year	\$1,000.. 108 043		
Materials and supplies inventories, end of year	\$1,000.. 220 698		
Gross book value of total assets at beginning of year	\$1,000.. 215 722		
Total capital expenditures (new and used)	\$1,000.. 20 800		
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 5 595		
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 15 205		
Total retirements ²	\$1,000.. 10 977		
Gross book value of total assets at end of year	\$1,000.. 225 545		
Total depreciation during year ²	\$1,000.. 17 981		
Total rental payments ²	\$1,000.. 19 336		
Buildings and other structures rental payments ²	\$1,000.. 13 565		
Machinery and equipment rental payments ²	\$1,000.. 5 771		
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased communications services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased legal services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased accounting and bookkeeping services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased advertising services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased software and other data processing services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S		
3152311, Women's & girls' cut/sew lingerie & nightwear mfg—manufacturer			
Companies ¹	number.. N		
All establishments	number.. 259		
Establishments with 1 to 19 employees	number.. 118		
Establishments with 20 to 99 employees	number.. 86		
Establishments with 100 employees or more	number.. 55		
All employees	number.. 21 463		
Total compensation ²	\$1,000.. 445 615		
Annual payroll	\$1,000.. 365 510		
Total fringe benefits	\$1,000.. 80 105		
315231, WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG—Con.			
3152311, Women's & girls' cut/sew lingerie & nightwear mfg—manufacturer—Con.			
Production workers, average for year	number.. 17 309		
Production workers on March 12	number.. 17 905		
Production workers on May 12	number.. 17 328		
Production workers on August 12	number.. 17 139		
Production workers on November 12	number.. 16 864		
Production-worker hours	1,000.. 32 828		
Production-worker wages	\$1,000.. 241 941		
Total cost of materials	\$1,000.. 1 246 869		
Cost of materials, parts, containers, etc., consumed	\$1,000.. 917 258		
Cost of resales	\$1,000.. 155 298		
Cost of fuels	\$1,000.. 2 089		
Cost of purchased electricity	\$1,000.. 11 443		
Cost of contract work	\$1,000.. 160 781		
Quantity of electricity purchased for heat and power	1,000 kWh.. 181 931		
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -		
Total value of shipments	\$1,000.. 2 358 965		
Primary products value of shipments	\$1,000.. X		
Secondary products value of shipments	\$1,000.. X		
Total miscellaneous receipts	\$1,000.. X		
Value of resales	\$1,000.. X		
Contract receipts	\$1,000.. X		
Other miscellaneous receipts	\$1,000.. X		
Primary products specialization ratio	percent.. X		
Value of primary products shipments made in all industries	\$1,000.. X		
Value of primary products shipments made in this industry	\$1,000.. X		
Value of primary products shipments made in other industries	\$1,000.. X		
Coverage ratio	percent.. X		
Value added	\$1,000.. 1 026 355		
Total inventories, beginning of year	\$1,000.. 617 801		
Finished goods inventories, beginning of year	\$1,000.. 369 914		
Work-in-process inventories, beginning of year	\$1,000.. 81 270		
Materials and supplies inventories, beginning of year	\$1,000.. 166 617		
Total inventories, end of year	\$1,000.. 512 479		
Finished goods inventories, end of year	\$1,000.. 285 756		
Work-in-process inventories, end of year	\$1,000.. 79 687		
Materials and supplies inventories, end of year	\$1,000.. 147 036		
Gross book value of total assets at beginning of year	\$1,000.. X		
Total capital expenditures (new and used)	\$1,000.. X		
Capital expenditures for buildings and other structures (new and used)	\$1,000.. X		
Capital expenditures for machinery and equipment (new and used)	\$1,000.. X		
Total retirements ²	\$1,000.. X		
Gross book value of total assets at end of year	\$1,000.. X		
Total depreciation during year ²	\$1,000.. X		
Total rental payments ²	\$1,000.. X		
Buildings and other structures rental payments ²	\$1,000.. X		
Machinery and equipment rental payments ²	\$1,000.. X		
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased communications services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased legal services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased accounting and bookkeeping services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased advertising services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased software and other data processing services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X		
Response coverage ratio ⁴	percent.. X		
3152312, Women's & girls' cut/sew lingerie & nightwear mfg—jobber			
Companies ¹	number.. N		
All establishments	number.. 27		
Establishments with 1 to 19 employees	number.. 9		
Establishments with 20 to 99 employees	number.. 10		
Establishments with 100 employees or more	number.. 8		
All employees	number.. 2 939		
Total compensation ²	\$1,000.. 61 954		
Annual payroll	\$1,000.. 51 449		
Total fringe benefits	\$1,000.. 10 505		
Production workers, average for year	number.. 1 915		
Production workers on March 12	number.. 1 899		
Production workers on May 12	number.. 1 888		
Production workers on August 12	number.. 1 898		
Production workers on November 12	number.. 1 975		
Production-worker hours	1,000.. 3 845		
Production-worker wages	\$1,000.. 29 373		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315231, WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG—Con.		315231, WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG—Con.	
3152312, Women's & girls' cut/sew lingerie & nightwear mfg—jobber—Con.		3152312, Women's & girls' cut/sew lingerie & nightwear mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	\$1,000..	Finished goods inventories, end of year	\$1,000..
Cost of resales	\$1,000..	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	\$1,000..	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	\$1,000..	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	\$1,000..	Total capital expenditures (new and used)	\$1,000..
		Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	\$1,000..	Total rental payments ²	\$1,000..
Secondary products value of shipments	\$1,000..	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	\$1,000..	Machinery and equipment rental payments ²	\$1,000..
Value of resales	\$1,000..	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	\$1,000..	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	\$1,000..	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
Coverage ratio	percent..	Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
Total inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Finished goods inventories, beginning of year	\$1,000..	Cost of purchased advertising services ³	\$1,000..
Work-in-process inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Materials and supplies inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315231. WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG												
All establishments	1	286	159	24 402	416 959	19 224	36 673	271 314	1 523 602	2 035 934	3 647 839	20 800
Establishments with 1 to 4 employees	7	50	—	103	2 021	89	157	1 361	4 316	5 324	9 732	67
Establishments with 5 to 9 employees	6	38	—	265	5 399	206	339	3 197	13 800	30 512	43 089	169
Establishments with 10 to 19 employees	4	39	—	555	13 007	421	773	6 995	54 069	61 910	116 010	472
Establishments with 20 to 49 employees	2	57	57	1 823	34 926	1 351	2 637	21 281	130 377	155 354	288 380	1 667
Establishments with 50 to 99 employees	4	39	39	2 872	42 655	2 473	4 669	33 109	108 337	127 123	245 173	2 395
Establishments with 100 to 249 employees	1	34	34	5 521	95 332	4 346	8 297	61 709	258 775	355 750	608 249	4 742
Establishments with 250 to 499 employees	—	20	20	7 359	133 766	5 734	11 505	86 141	276 038	734 928	1 069 312	7 495
Establishments with 500 to 999 employees	—	9	9	5 904	89 853	4 604	8 296	57 521	677 890	565 033	1 267 894	3 793
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	8	58	—	503	7 605	386	755	5 384	21 373	22 169	43 775	359

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315231	Women's & girls' cut/sew lingerie & nightwear mfg.	286	24 402	416 959	19 224	36 673	271 314	1 523 602	2 035 934	3 647 839	20 800
3152311	Women's, misses', juniors', girls' underwear (except brassieres, corsets, and girdles)	50	7 176	106 841	6 339	11 318	80 206	329 555	308 988	655 189	6 218
3152313	Women's, misses', juniors', and girls' nightwear, including pajamas and gowns (except robes)	50	5 243	94 583	4 383	9 395	66 450	228 734	390 506	627 612	3 882
3152315	Women's, misses', and juniors' brassieres, including maternity, bralettes, and bandeaux	30	6 161	126 459	4 057	7 810	69 053	608 385	908 805	1 568 830	6 870
3152317	Women's, misses', and juniors' corsets, girdles, combinations, and accessories	15	1 569	19 782	1 128	1 803	10 943	220 739	209 398	439 395	1 064
3152319	Women's, misses', juniors', and girls' robes and dressing gowns	25	2 115	34 960	1 578	3 291	21 746	71 096	130 519	202 146	1 585

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315231	Women's and girls' cut and sew lingerie, loungewear and nightwear	N	X	X	3 529 540	N	X	X	N
3152311	Women's, misses', juniors', and girls' underwear (except brassieres, corsets, and girdles) @	N	X	X	808 695	N	X	X	N
31523110	Women's, misses', juniors', and girls' underwear, including slips and teddies (except brassieres, corsets, and girdles)	N	X	X	722 373	N	X	X	N
3152311010	Women's, misses', and juniors' underwear, including slips and teddies (except brassieres, corsets, and girdles) \$	59	X	X	629 335	N	X	X	N
3152311020	Girls' underwear, including slips and teddies (except brassieres, corsets, and girdles) \$	13	X	X	93 038	N	X	X	N
3152311Y	Women's, misses', juniors', and girls' underwear, including slips and teddies (except brassieres, corsets, and girdles), nsk	N	X	X	86 322	N	X	X	N
3152311YVW	Women's, misses', juniors', and girls' underwear, including slips and teddies (except brassieres, corsets, and girdles), nsk	N	X	X	86 322	N	X	X	N
3152313	Women's, misses', juniors', and girls' nightwear, including pajamas and gowns (except robes) @	N	X	X	522 806	N	X	X	N
31523130	Women's, misses', juniors', and girls' nightwear, including pajamas and gowns (except robes)	N	X	X	452 356	N	X	X	N
3152313010	Women's, misses', and juniors' nightwear, including pajamas and gowns (except robes) \$	47	X	X	348 509	N	X	X	N
3152313020	Girls' nightwear, including pajamas and gowns (except robes) \$	11	X	X	103 847	N	X	X	N
3152313Y	Women's, misses', juniors', and girls' nightwear, including pajamas and gowns (except robes), nsk	N	X	X	70 450	N	X	X	N
3152313YVW	Women's, misses', juniors', and girls' nightwear, including pajamas and gowns (except robes), nsk	N	X	X	70 450	N	X	X	N
3152315	Women's, misses', and juniors' brassieres, including maternity, bra-lettes, and bandeaux @	N	X	X	1 512 329	N	X	X	1 191 002
31523150	Brassieres, including maternity, bra-lettes, and bandeaux	N	X	X	1 512 329	N	X	X	N
3152315000	Brassieres, including maternity, bra-lettes, and bandeaux \$	33	X	X	1 512 329	51	X	X	1 191 002
3152317	Women's, misses', and juniors' corsets, girdles, combinations, and accessories @	N	X	X	349 606	N	X	X	N
31523171	Women's, misses', and juniors' corsets, girdles, combinations, and accessories	N	X	X	349 606	N	X	X	N
3152317110	Women's, misses', and juniors' corsets, girdles, including maternity, panty girdles, and combinations (except surgical corsets) \$	23	X	X	347 768	27	X	X	335 242
3152317121	Corset accessories, including clasps and stays	-	X	X	-	N	X	X	-
3152317131	Garters	3	X	D	D	N	X	X	N
3152317151	Garter belts	1	X	X	D	5	X	X	14 930
3152317Y	Women's, misses', and juniors' corsets, girdles, combinations, and accessories, nsk	N	X	X	-	N	X	X	N
3152317YVW	Women's, misses', and juniors' corsets, girdles, combinations, and accessories, nsk	N	X	X	-	N	X	X	N
3152319	Women's, misses', juniors', and girls' robes and dressing gowns @	N	X	X	230 611	N	X	X	N
31523190	Women's, misses', juniors', and girls' robes and dressing gowns	N	X	X	230 611	N	X	X	N
3152319000	Women's, misses', juniors', and girls' robes and dressing gowns	46	X	X	230 611	N	X	X	N
315231W	Women's and girls' cut and sew lingerie, loungewear and nightwear, nsk, total	N	X	X	105 493	N	X	X	N
315231WY	Women's and girls' cut and sew lingerie, loungewear and nightwear, nsk, total	N	X	X	105 493	N	X	X	N
315231WYVW	Women's and girls' cut and sew lingerie, loungewear and nightwear, nsk, for nonadministrative-record establishments	N	X	X	74 834	N	X	X	N
315231WYVW	Women's and girls' cut and sew lingerie, loungewear and nightwear, nsk, for administrative-record establishments	N	X	X	30 659	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)		
		1997	1992	
3152311	WOMEN'S, MISSES', JUNIORS', AND GIRLS' UNDERWEAR (EXCEPT BRASSIERES, CORSETS, AND GIRDLES) @			
	United States	808 695	N	
	California	69 466	N	
	Florida	17 754	N	
	Georgia	120 088	N	
	New Jersey	50 278	N	
	New York	26 293	N	
	Pennsylvania	57 464	N	
	South Carolina	3 443	N	
	Tennessee	14 950	N	
Texas	7 143	N		
3152313	WOMEN'S, MISSES', JUNIORS', AND GIRLS' NIGHTWEAR, INCLUDING PAJAMAS AND GOWNS (EXCEPT ROBES) @			
	United States	522 806	N	
	California	31 519	N	
	New Jersey	29 774	N	
	New York	93 118	N	
	North Carolina	55 933	N	
	Pennsylvania	23 090	N	
	Texas	29 085	N	
	3152315	WOMEN'S, MISSES', AND JUNIORS' BRASSIERES, INCLUDING MATERNITY, BRALLETTES, AND BANDEAUX @		
		United States	1 512 329	1 191 002
California		41 615	N	
Georgia		436 065	N	
New Jersey		138 431	157 877	
New York		61 445	229 069	
3152317	WOMEN'S, MISSES', AND JUNIORS' CORSETS, GIRDLES, COMBINATIONS, AND ACCESSORIES @			
	United States	349 606	N	
	New York	73 029	N	
3152319	WOMEN'S, MISSES', JUNIORS', AND GIRLS' ROBES AND DRESSING GOWNS @			
	United States	230 611	N	
	California	49 880	N	
	New York	11 023	N	
	North Carolina	77 951	N	
	South Carolina	9 048	N	

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315231	WOMEN'S & GIRLS' CUT/SEW LINGERIE & NIGHTWEAR MFG				
31321023	Broadwoven fabrics (piece goods)	X	238 836	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	103 147	X	N
31324000	Knit fabrics	X	996 959	X	N
31311003	Yarn, all fibers	X	36 764	X	N
33999301	Buttons, zippers, and slide fasteners	X	31 170	X	N
00970099	All other materials and components, parts, containers, and supplies	X	49 644	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	125 960	X	N

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1997 and 1992—Con.

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315231 WOMEN'S AND GIRLS' CUT AND SEW LINGERIE, LOUNGEWEAR, AND NIGHTWEAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' bras, girdles, and other underwear; lingerie; loungewear; and nightwear from purchased fabric. Women's and girls' lingerie, loungewear, and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathrobes, foundation garments, nightgowns, pajamas, panties, and slips.

The data published with NAICS code 315231 include the following SIC industries:

- 2341 Women's and children's underwear (pt)
- 2342 Brassieres and allied garments (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2384 Robes and dressing gowns (pt)
- 2389 Apparel and accessories, n.e.c. (pt)

3152311 Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' bras, girdles, and other underwear; lingerie; loungewear; and nightwear from purchased fabric.

3152312 Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing - Jobbers

Establishments engaged as women's and girls' lingerie, loungewear, and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152311	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152311010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152311020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152313	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152313010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152313020	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152315	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152315000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152317	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152317110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152319	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
315111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2325902	2325902
3151111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVW pt	2251400	2251400	3151921YVW	2254100	2254100	315211WYWW pt ...	2326902	2326902
3151111YVW pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113111	2251612	2251612	3151923120	2254413	2254413	315211WYWW pt ...	2331002 pt	2331002 pt
3151113221	2251614	2251614	3151923YVW	2254400	2254400	315211WYWW pt ...	2334002 pt	2334002 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	315211WYWW pt ...	2335002 pt	2335002 pt
3151113341	2251615	2251615	3151927110	2259030	2259030	315211WYWW pt ...	2335002 pt	2335002 pt
3151113351	2251617	2251617	3151927120	2259040	2259098 pt	3152121	23319 pt	23319 pt
3151113391	2251620	2251619	3151927YVW	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151113YVW	2251600	2251600	315192W pt	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115	22518	22518	315192W pt	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115121	2251814	2251814	315192WYVW pt...	2254000	2254000	3152123100 pt	2335900	2335900
3151115131	2251817	2251817	315192WYVW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
3151115YVW	2251800	2251800	315192WYVW pt...	2254002	2254002	3152125	23379 pt	23379 pt
315111W pt.....	22510	22510	315192WYVW pt...	2259002 pt	2259002 pt	3152125100	2337900	2337900
315111W pt.....	22520 pt	22520 pt	3152111	23119 pt	23119 pt	3152127 pt.....	23399 pt	23399 pt
315111WYVW pt.....	2251000	2251000	3152111100	2311900	2311900	3152127 pt.....	23699 pt	23699 pt
315111WYVW pt.....	2252000 pt	2252000 pt	3152111100	2311900	2311900	3152127100 pt	2339900	2339900
315111WYVW pt.....	2251002	2251002	3152113	23219 pt	23219 pt	3152127100 pt	2369900	2369900
315111WYVW pt.....	2252002 pt	2252002 pt	3152113100	2321900	2321900	3152129	23419 pt	23419 pt
3151191	22522	22522	31521115	23229	23229	3152129100 pt	2341901	2341900 pt
3151191111	2252223	2252223	3152115100	2322900	2322900	3152129100 pt	2341903	2341900 pt
3151191221	2252225	2252225	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191331	2252233	2252233	3152117100	2325900	2325900	315212B	23429	23429
3151191441	2252235	2252235	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
3151191551	2252243	2252243	3152119100	2326900	2326900	315212D	23849 pt	93000 pt
3151191561	2252245	2252245	315211B	23299 pt	23299 pt	315212D100 pt	2384995	9300000 pt
3151191591	2252287	2252287	315211B100	2329900	2329900	315212D100 pt	2384900 pt	9300000 pt
3151191YVW	2252200	2252200	315211D	23849 pt	93000 pt	315212F	23859 pt	23859 pt
3151193	22525 pt	22525 pt	315211D100 pt	2384994	9300000 pt	315212F100 pt	2385920	2385900 pt
3151193111	2252516	2252515	315211D100 pt	2384900 pt	9300000 pt	315212F100 pt	2385900 pt	2385900 pt
3151193121	2252501	2252501	315211F	23859 pt	23859 pt	315212H	23959 pt	23958 pt
3151193131	2252503	2252503	315211F100 pt	2385910	2385900 pt	315212H100 pt	2395900 pt	2395800 pt
3151193241	2252521	2252521	315211F100 pt	2385900 pt	2385900 pt	315212H100 pt	2395994	2395833
3151193251	2252527	2252527	315211H	23959 pt	23958 pt	315212J	23899	93000 pt
3151193261	2252533	2252531	315211H100 pt	2395900 pt	2395800 pt	315212J100 pt	2389993	9300000 pt
3151193371	2252551	2252551	315211H100 pt	2395993	2395811	315212J100 pt	2389900	9300000 pt
3151193381	2252557	2252557	315211W pt	23110 pt	23110 pt	315212W pt.....	23310 pt	23310 pt
3151193391	2252561	2252561	315211W pt	23119 pt	23119 pt	315212W pt.....	23319 pt	23319 pt
31511933B1	2252588	2252581	315211W pt	23210 pt	23210 pt	315212W pt.....	23350 pt	23350 pt
3151193YVW	2252500 pt	2252500 pt	315211W pt	23219 pt	23219 pt	315212W pt.....	23359 pt	23359 pt
3151195	22526	22526	315211W pt	23220 pt	23220 pt	315212W pt.....	23370 pt	23370 pt
3151195111	2252625	2252625	315211W pt	23220 pt	23220 pt	315212W pt.....	23379 pt	23379 pt
3151195121	2252642	2252642	315211W pt	23250 pt	23250 pt	315212W pt.....	23390 pt	23390 pt
3151195131	2252651	2252651	315211W pt	23259 pt	23259 pt	315212W pt.....	23399 pt	23399 pt
3151195YVW	2252600	2252600	315211W pt	23260 pt	23260 pt	315212W pt.....	23410 pt	23410 pt
315119W	22520 pt	22520 pt	315211W pt	23269 pt	23269 pt	315212W pt.....	23419 pt	23419 pt
315119WYVW	2252000 pt	2252000 pt	315211W pt	23290 pt	23290 pt	315212W pt.....	23420 pt	23420 pt
315119WYVW	2252002 pt	2252002 pt	315211W pt	23299 pt	23299 pt	315212W pt.....	23460 pt	23460 pt
3151911	22534	22534	315211W pt	23299 pt	23299 pt	315212W pt.....	23619 pt	23619 pt
3151911100	2253400	2253400	315211W pt	23410 pt	23410 pt	315212W pt.....	23690 pt	23690 pt
3151913	22535	22535	315211W pt	23410 pt	23410 pt	315212W pt.....	23699 pt	23699 pt
3151913100	2253500	2253500	315211W pt	23410 pt	23410 pt	315212W pt.....	23840 pt	23840 pt
3151915	22536	22536	315211W pt	23410 pt	23410 pt	315212W pt.....	23850 pt	23850 pt
3151915100	2253600	2253600	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
3151917	2253A	2253A	315211W pt	23410 pt	23410 pt	315212W pt.....	23950 pt	23950 pt
3151917100	2253A00	2253A00	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
3151919	2253B	2253B	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
3151919100	2253B00	2253B00	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191A	2253C	2253C	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191A100	2253C00	2253C00	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191C	2253D	2253D	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191C110	2253D01	2253D01	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191C120	2253D05	2253D05	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191C130	2253D09	2253D09	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191CYVW	2253D00	2253D00	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191E	2253E	2253E	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191E100	2253E00	2253E00	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191EYVW	2253E02	2253E02	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191G	22590 pt	22590 pt	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191G100	2259020	2259020	315211W pt	23410 pt	23410 pt	315212W pt.....	2395000 pt	2395000 pt
315191W pt.....	22530	22530	315211WYVW pt...	2395000 pt	2395000 pt	315212W pt.....	2395000 pt	2395000 pt

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.....	23950 pt.....	23950 pt.....	315223W pt.....	23610 pt.....	23610 pt.....	3152323 pt.....	23614 pt.....	23614 pt.....
315212WYWW pt...	2331000 pt.....	2331000 pt.....	315223WYWW pt...	2321000 pt.....	2321000 pt.....	3152323010.....	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2335000 pt.....	2335000 pt.....	315223WYWW pt...	2361000 pt.....	2361000 pt.....	3152323020.....	2361401.....	2361400 pt.....
315212WYWW pt...	2337000 pt.....	2337000 pt.....	315223WYWW pt...	2321002 pt.....	2321002 pt.....	3152323YV pt...	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2339000 pt.....	2339000 pt.....	315223WYWW pt...	2361002 pt.....	2361002 pt.....	3152323YV pt...	2361400 pt.....	2361400 pt.....
315212WYWW pt...	2341000 pt.....	2341000 pt.....	315224 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt...	2342000 pt.....	2342000 pt.....	3152241 pt.....	232693 pt.....	232693 pt.....	315232W pt.....	23610 pt.....	23610 pt.....
315212WYWW pt...	2346000 pt.....	2346000 pt.....	3152241010.....	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331000 pt.....	2331000 pt.....
315212WYWW pt...	2369000 pt.....	2369000 pt.....	3152241020.....	2369342.....	2369342.....	315232WYWW pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2384000 pt.....	2384000 pt.....	3152241YV pt...	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331002 pt.....	2331002 pt.....
315212WYWW pt...	2385000 pt.....	2385000 pt.....	3152241YV pt...	2369300 pt.....	2369300 pt.....	315232WYWW pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2389000 pt.....	2389000 pt.....	3152243.....	23252.....	23252.....	3152330 pt.....	23350 pt.....	23350 pt.....
315212WYWW pt...	2395000 pt.....	2395000 pt.....	3152243000.....	2325200.....	2325200.....	3152330 pt.....	23353.....	23353.....
315212WYWW pt...	2331002 pt.....	2331002 pt.....	315224W pt.....	23250 pt.....	23250 pt.....	3152330 pt.....	23610 pt.....	23610 pt.....
315212WYWW pt...	2331902.....	2331902.....	315224W pt.....	23690 pt.....	23690 pt.....	3152330 pt.....	23615 pt.....	23615 pt.....
315212WYWW pt...	2335002 pt.....	2335002 pt.....	315224WYWW pt...	2325000 pt.....	2325000 pt.....	3152330010.....	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2335902.....	2335902.....	315224WYWW pt...	2369000 pt.....	2369000 pt.....	3152330020.....	2361501.....	2361500 pt.....
315212WYWW pt...	2337002.....	2337002.....	315224WYWW pt...	2325002 pt.....	2325002 pt.....	3152330YV pt...	2335000 pt.....	2335000 pt.....
315212WYWW pt...	2337902.....	2337902.....	315224WYWW pt...	2369002 pt.....	2369002 pt.....	3152330YV pt...	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2339002.....	2339002.....	3152251.....	23261.....	23261.....	3152330YV pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2339902.....	2339902.....	3152251000.....	2326100.....	2326100.....	3152330YV pt...	2361500 pt.....	2361500 pt.....
315212WYWW pt...	2341002 pt.....	2341002 pt.....	3152253.....	23262.....	23262.....	3152330YV pt...	2335002 pt.....	2335002 pt.....
315212WYWW pt...	2341902.....	2341902.....	3152253000.....	2326200.....	2326200.....	3152330YV pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2342002 pt.....	2342002 pt.....	315225W.....	23260 pt.....	23260 pt.....	3152341 pt.....	23371.....	23371.....
315212WYWW pt...	2361002 pt.....	2361002 pt.....	315225WYWW.....	2326000 pt.....	2326000 pt.....	3152341 pt.....	23692 pt.....	23692 pt.....
315212WYWW pt...	2361902.....	2361902.....	315225WYWW.....	2326002 pt.....	2326002 pt.....	3152341010.....	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2369002 pt.....	2369002 pt.....	315225WYWW.....	2326002 pt.....	2326002 pt.....	3152341020.....	2369201.....	2369200 pt.....
315212WYWW pt...	2369002.....	2369002.....	3152281.....	23291.....	23291.....	3152341YV pt...	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2384002.....	2384002.....	3152281000.....	2329100.....	2329100.....	3152341YV pt...	2369200 pt.....	2369200 pt.....
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1997 Economic Census

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econgguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315232	Women's & girls' cut & sew blouse & shirt mfg	713	726	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
233120	Women's blouses & waists (pt)	N	650	22 390	463 645	16 424	28 548	257 415	1 365 883	2 054 405	3 361 424	25 791
236130	Girls' & children's dresses & blouses (pt)	N	76	3 848	89 898	2 836	4 566	44 400	299 395	335 839	630 119	5 496

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG												
United States	2	726	300	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
California	2	332	135	11 444	283 426	8 355	13 631	143 242	795 870	1 206 645	1 971 044	14 705
Florida	-	42	14	1 803	31 582	1 175	2 032	16 940	75 668	105 006	176 989	1 085
New Jersey	1	24	10	797	21 736	621	1 259	10 532	63 363	124 148	186 172	1 098
New York	4	154	56	4 160	90 336	2 805	4 768	44 331	333 026	554 762	882 415	5 351
Pennsylvania	3	30	19	1 748	29 645	1 499	2 717	22 426	98 452	76 920	172 078	1 080
South Carolina	1	8	5	750	12 329	648	1 377	9 545	50 808	60 019	97 102	678
Tennessee	-	9	6	404	4 398	312	449	3 182	9 288	3 105	11 959	60
Virginia	-	9	5	379	5 548	330	661	4 353	19 074	19 768	38 418	422

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG		315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG—Con.	
Companies ¹	number.. 713	3152321, Women's & girls' cut & sew blouse & shirt mfg—manufacturer—Con.	
All establishments	number.. 726	Production workers, average for year	number.. 16 452
Establishments with 1 to 19 employees	number.. 426	Production workers on March 12	number.. 16 482
Establishments with 20 to 99 employees	number.. 242	Production workers on May 12	number.. 16 771
Establishments with 100 employees or more	number.. 58	Production workers on August 12	number.. 16 398
All employees	number.. 26 238	Production workers on November 12	number.. 16 157
Total compensation ²	\$1,000.. 637 148	Production-worker hours	1,000.. 28 503
Annual payroll	\$1,000.. 553 543	Production-worker wages	\$1,000.. 241 374
Total fringe benefits	\$1,000.. 83 605	Total cost of materials	\$1,000.. 1 249 336
Production workers, average for year	number.. 19 260	Cost of materials, parts, containers, etc., consumed	\$1,000.. 832 417
Production workers on March 12	number.. 19 280	Cost of resales	\$1,000.. 78 144
Production workers on May 12	number.. 19 543	Cost of fuels	\$1,000.. 4 758
Production workers on August 12	number.. 19 175	Cost of purchased electricity	\$1,000.. 10 014
Production workers on November 12	number.. 19 042	Cost of contract work	\$1,000.. 324 003
Production-worker hours	1,000.. 33 114	Quantity of electricity purchased for heat and power	1,000 kWh.. 119 578
Production-worker wages	\$1,000.. 301 815	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 2 390 244	Total value of shipments	\$1,000.. 2 245 648
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 528 373	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 190 188	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 5 396	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 12 081	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 654 206	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 141 309	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 3 991 543	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 2 620 781	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 1 105 932	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 264 830	Coverage ratio	percent.. X
Value of resales	\$1,000.. 264 644	Value added	\$1,000.. 1 037 985
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 300 957
Other miscellaneous receipts	\$1,000.. 186	Finished goods inventories, beginning of year	\$1,000.. 134 166
Primary products specialization ratio	percent.. 70	Work-in-process inventories, beginning of year	\$1,000.. 66 574
Value of primary products shipments made in all industries	\$1,000.. 4 146 795	Materials and supplies inventories, beginning of year	\$1,000.. 100 217
Value of primary products shipments made in this industry	\$1,000.. 2 620 781	Total inventories, end of year	\$1,000.. 338 549
Value of primary products shipments made in other industries	\$1,000.. 1 526 014	Finished goods inventories, end of year	\$1,000.. 164 360
Coverage ratio	percent.. 63	Work-in-process inventories, end of year	\$1,000.. 78 053
Value added	\$1,000.. 1 665 278	Materials and supplies inventories, end of year	\$1,000.. 96 136
Total inventories, beginning of year	\$1,000.. 505 498	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 225 149	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 111 339	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 169 010	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 568 830	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 268 558	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 131 909	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 168 363	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 231 884	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 31 287	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 7 058	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 24 229	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 8 822	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 254 349	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 24 352	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 43 354	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 26 945	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 16 409	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. S	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. S	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. S	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. S	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S	3152322, Women's & girls' cut & sew blouse & shirt mfg—jobber	
Cost of purchased advertising services ³	\$1,000.. S	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. S	All establishments	number.. 114
Cost of purchased software and other data processing services ³	\$1,000.. S	Establishments with 1 to 19 employees	number.. 70
Response coverage ratio ⁴	percent.. S	Establishments with 20 to 99 employees	number.. 28
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. S	Establishments with 100 employees or more	number.. 16
Response coverage ratio ⁴	percent.. S	All employees	number.. 4 824
		Total compensation ²	\$1,000.. 164 984
3152321, Women's & girls' cut & sew blouse & shirt mfg—manufacturer		Annual payroll	\$1,000.. 143 317
Companies ¹	number.. N	Total fringe benefits	\$1,000.. 21 667
All establishments	number.. 612	Production workers, average for year	number.. 2 808
Establishments with 1 to 19 employees	number.. 356	Production workers on March 12	number.. 2 798
Establishments with 20 to 99 employees	number.. 214	Production workers on May 12	number.. 2 772
Establishments with 100 employees or more	number.. 42	Production workers on August 12	number.. 2 777
All employees	number.. 21 414	Production workers on November 12	number.. 2 885
Total compensation ²	\$1,000.. 472 164	Production-worker hours	1,000.. 4 611
Annual payroll	\$1,000.. 410 226	Production-worker wages	\$1,000.. 60 441
Total fringe benefits	\$1,000.. 61 938		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG—Con.		315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG—Con.	
3152322, Women's & girls' cut & sew blouse & shirt mfg—jobber—Con.		3152322, Women's & girls' cut & sew blouse & shirt mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	1 140 908	Finished goods inventories, end of year	\$1,000..
Cost of resales	695 956	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	112 044	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	638	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	2 067	Total capital expenditures (new and used)	\$1,000..
	330 203	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	X	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	204 541	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	90 983	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	44 765	Response coverage ratio ⁴	percent..
	68 793		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG												
All establishments	2	726	300	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
Establishments with 1 to 4 employees	6	149	—	331	7 831	234	387	4 067	22 280	32 362	54 686	484
Establishments with 5 to 9 employees	2	105	—	721	16 498	537	919	9 317	56 211	75 429	129 002	918
Establishments with 10 to 19 employees	2	172	—	2 467	48 089	1 873	3 067	25 877	122 714	223 311	348 323	2 256
Establishments with 20 to 49 employees	1	170	170	5 155	87 836	4 313	6 931	53 674	243 795	290 545	524 785	5 075
Establishments with 50 to 99 employees	1	72	72	5 052	117 039	3 714	6 847	55 351	347 910	560 997	891 973	5 429
Establishments with 100 to 249 employees	3	46	46	7 166	167 467	5 210	9 513	95 609	498 405	747 329	1 231 735	9 804
Establishments with 250 to 499 employees	2	9	9	3 222	54 789	1 777	3 075	24 591	240 300	306 082	530 511	3 599
Establishments with 500 to 999 employees	1	3	3	2 124	53 994	1 602	2 375	33 329	133 663	154 189	280 528	3 722
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	8	112	—	458	8 185	302	462	4 344	26 411	38 884	65 181	535

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315232	Women's & girls' cut & sew blouse & shirt mfg ..	726	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
3152321	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts	404	15 612	301 899	12 629	21 682	194 883	879 523	1 187 349	2 042 271	17 264
3152323	Women's, misses', juniors', and girls' woven shirts and blouses	155	8 515	218 078	5 333	9 076	89 298	680 748	1 059 567	1 710 968	12 181

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315232	Women's and girls' cut and sew blouses and shirts	N	X	X	4 146 795	N	X	X	N
3152321	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts @	N	X	X	2 241 117	N	X	X	N
31523210	Women's, misses', and juniors' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts	N	X	X	1 897 186	N	X	X	N
3152321010	Women's, misses', and juniors' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts \$	583	X	X	1 897 186	413	X	X	1 495 796
31523211	Girls' knit shirts and blouses, including polo, tennis, tank, sweat, and T-shirts	N	X	X	338 488	N	X	X	N
3152321120	Girls' knit shirts and blouses, including polo, tennis, tank, sweat, and T-shirts \$	74	X	X	338 488	N	X	X	N
3152321Y	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts, nsk	N	X	X	5 443	N	X	X	N
3152321YVV	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts, nsk	N	X	X	5 443	N	X	X	N
3152323	Women's, misses', juniors', and girls' woven shirts and blouses @	N	X	X	1 826 463	N	X	X	N
31523230	Women's, misses', juniors', and girls' woven shirts and blouses	N	X	X	1 823 412	N	X	X	N
3152323010	Women's, misses', and juniors' woven shirts and blouses	334	X	X	1 616 479	349	X	X	1 879 794
3152323020	Girls' woven shirts and blouses	32	X	X	206 933	N	X	X	N
3152323Y	Women's, misses', juniors', and girls' woven shirts and blouses, nsk	N	X	X	3 051	N	X	X	N
3152323YVV	Women's, misses', juniors', and girls' woven shirts and blouses, nsk	N	X	X	3 051	N	X	X	N
315232W	Women's and girls' cut and sew blouses and shirts, nsk, total	N	X	X	79 215	N	X	X	N
315232WY	Women's and girls' cut and sew blouses and shirts, nsk, total	N	X	X	79 215	N	X	X	N
315232WYVV	Women's and girls' cut and sew blouses and shirts, nsk, for nonadministrative-record establishments	N	X	X	21 004	N	X	X	N
315232WYVY	Women's and girls' cut and sew blouses and shirts, nsk, for administrative-record establishments	N	X	X	58 211	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152321	WOMEN'S, MISSES', JUNIORS', AND GIRLS' KNIT SHIRTS AND BLOUSES, INCLUDING POLO, TENNIS, COWL, TANK, SWEAT, AND T-SHIRTS @		
	United States	2 241 117	N
	Arizona	7 219	N
	California	822 437	N
	Florida	89 947	N
	Georgia	56 340	N
	Hawaii	4 135	N
	Illinois	4 573	N
	Massachusetts	12 111	N
	Mississippi	20 022	N
	Missouri	12 632	N
	New Jersey	215 164	N

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152321	WOMEN'S, MISSES', JUNIORS', AND GIRLS' KNIT SHIRTS AND BLOUSES, INCLUDING POLO, TENNIS, COWL, TANK, SWEAT, AND T-SHIRTS @—Con.		
	New York	415 264	N
	North Carolina	102 651	N
	Ohio	5 801	N
	Pennsylvania	74 726	N
	South Carolina	39 473	N
	Tennessee	28 120	N
	Texas	31 242	N
	Virginia	156 972	N
3152323	WOMEN'S, MISSES', JUNIORS', AND GIRLS' WOVEN SHIRTS AND BLOUSES @		
	United States	1 826 463	N
	California	926 142	N
	Florida	27 342	N
	Georgia	33 853	N
	Hawaii	3 505	N
	Illinois	2 482	N
	New Jersey	71 246	N
	New York	488 177	N
	North Carolina	51 034	N
	Pennsylvania	108 819	N
	South Carolina	5 735	N
	Tennessee	10 475	N
	Texas	36 510	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315232	WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG				
31321023	Broadwoven fabrics (piece goods)	X	528 097	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	68 985	X	N
31324000	Knit fabrics	X	515 299	X	N
31311003	Yarn, all fibers	X	89 840	X	N
33999301	Buttons, zippers, and slide fasteners	X	62 765	X	N
00970099	All other materials and components, parts, containers, and supplies	X	83 702	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	179 685	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315232 WOMEN'S AND GIRLS' CUT AND SEW BLOUSE AND SHIRT MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric. Women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315232 include the following SIC industries:

2331 Women's blouses and waists (pt)

2361 Girls' and children's dresses and blouses (pt)

3152321 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric.

3152322 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing - Jobbers

Establishments engaged as women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152321	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152321010	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152321120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3152323	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05	315211W pt.....	23950 pt	23950 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2310000 pt	2310000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2321000 pt	2321000 pt			
			315211WYWW pt...	2322000 pt	2322000 pt			
315191E	2253E	2253E	315211WYWW pt...	2325000 pt	2325000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2326000 pt	2326000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt	2329000 pt			
			315211WYWW pt...	2341000 pt	2341000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
315191G100	2259020	2259020	315211WYWW pt...	2385000 pt	2385000 pt			
			315211WYWW pt...	2395000 pt	2395000 pt			
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369393 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369370 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313 pt.	23413 pt.	23413 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341303 pt.	2341300 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2322200 pt.	2322200 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221 pt.	23115 pt.	23115 pt.	3152317 pt.	23422 pt.	23422 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23693 pt.	23693 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225 pt.	23117 pt.	23117 pt.	3152319 pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152319 pt.	23693 pt.	23693 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319000 pt.	23840 pt.	23840 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23690 pt.	23690 pt.	315239W pt.	239000 pt.	239000 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231WYV pt.	2341000 pt.	2341000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231WYV pt.	2342000 pt.	2342000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231WYV pt.	2369000 pt.	2369000 pt.	3152910 pt.	23410 pt.	23410 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	3152910 pt.	23412 pt.	23412 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	3152910 pt.	23413 pt.	23413 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2341002 pt.	2341002 pt.			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3152910 pt.....	23693 pt.....	23693 pt	315299W pt.....	23390 pt.....	23390 pt	3159995.....	23871.....	23871
3152910 pt.....	23850 pt.....	23850 pt	315299W pt.....	23890 pt.....	23890 pt	3159995111.....	2387113.....	2387113
3152910 pt.....	23851 pt.....	23851 pt	315299WYWW pt...	2329000 pt.....	2329000 pt	3159995121.....	2387115.....	2387115
3152910110.....	2341204.....	2341200 pt	315299WYWW pt...	2339000 pt.....	2339000 pt	3159995131.....	2387153.....	2387153
3152910120.....	2341304.....	2341300 pt	315299WYWW pt...	2389000 pt.....	2389000 pt	3159995141.....	2387155.....	2387155
3152910230.....	2361303.....	2361300 pt	315299WYWW pt...	2329002 pt.....	2329002 pt	3159995YVW.....	2387100.....	2387100
3152910240.....	2361403.....	2361400 pt	315299WYWW pt...	2339002 pt.....	2339002 pt	3159997.....	23872.....	23872
3152910250.....	2361502.....	2361500 pt	315299WYWW pt...	2389002 pt.....	2389002 pt	3159997111.....	2387213.....	2387213
3152910260.....	2369203.....	2369200 pt	3159911.....	23531.....	23531	3159997121.....	2387215.....	2387215
3152910270.....	2369343.....	2369340 pt	3159911111.....	2353101.....	2353101	3159997131.....	2387253.....	2387253
31529102A0.....	2369373.....	2369370 pt	3159911121.....	2353103.....	2353103	3159997141.....	2387255.....	2387255
31529102C0 pt.....	2369396.....	2369393 pt	3159911131.....	2353105.....	2353105	3159997YVW.....	2387200.....	2387200
31529102C0 pt.....	2385171.....	2385171	3159911141.....	2353109.....	2353109	315999A.....	23890 pt.....	23890 pt
3152910YVW pt...	2341000 pt.....	2341000 pt	3159911YVW.....	2353100.....	2353100	315999A111.....	2389045.....	2389031 pt
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315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2387000.....	2387000
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3152995121.....	2389091.....	2389091	3159930YVW.....	2323002.....	2323002	315999WYVW pt...	2399000 pt.....	2399000 pt
3152995131.....	2389098.....	2389098	3159991.....	23397 pt.....	23397 pt	315999WYVW pt...	2387002.....	2387002
3152995YVW.....	2389000 pt.....	2389000 pt	3159991100.....	2339770.....	2339770	315999WYVW pt...	2389002 pt.....	2389002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt...	2396002 pt.....	2396002 pt
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Women's and Girls' Cut and Sew Dress Manufacturing

1997

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315233	Women's & girls' cut & sew dress mfg	749	776	29 720	739 809	18 819	33 686	372 241	2 118 018	3 152 891	5 206 673	46 090
233520	Women's dresses (pt)	N	701	26 207	664 678	16 161	29 061	328 142	1 926 435	2 889 453	4 753 373	43 547
236140	Girls' & children's dresses & blouses (pt)	N	75	3 513	75 131	2 658	4 625	44 099	191 583	263 438	453 300	2 543

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315233, WOMEN'S & GIRLS' CUT & SEW DRESS MFG												
United States	2	776	328	29 720	739 809	18 819	33 686	372 241	2 118 018	3 152 891	5 206 673	46 090
California	1	288	119	11 011	306 719	7 623	14 721	162 297	837 563	1 227 219	2 053 383	23 720
Florida	1	36	9	874	14 566	672	1 227	9 729	36 410	49 742	83 493	621
Hawaii*	-	17	5	302	6 520	210	305	2 349	13 474	10 144	23 505	150
Illinois	4	13	8	471	10 930	342	529	5 885	32 437	25 032	59 557	454
Massachusetts	5	8	5	331	7 615	242	439	4 127	13 594	14 242	27 302	266
New Jersey	3	19	7	364	7 557	258	382	3 583	22 033	36 285	57 747	344
New York	3	259	116	10 245	284 785	5 361	8 841	119 288	853 022	1 354 740	2 186 288	13 471
North Carolina	5	9	8	712	11 897	503	646	6 319	20 103	29 918	50 000	499
Pennsylvania	-	22	9	1 235	20 729	1 012	2 088	17 563	105 807	202 146	307 058	1 882
Texas	2	30	8	1 562	26 599	777	1 093	11 892	52 082	80 013	130 690	2 301

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315233, WOMEN'S & GIRLS' CUT & SEW DRESS MFG		315233, WOMEN'S & GIRLS' CUT & SEW DRESS MFG—Con.	
Companies ¹	number.. 749	3152331, Women's & girls' cut & sew dress mfg—manufacturer—Con.	
All establishments	number.. 776	Production workers, average for year	number.. 15 490
Establishments with 1 to 19 employees	number.. 448	Production workers on March 12	number.. 15 674
Establishments with 20 to 99 employees	number.. 262	Production workers on May 12	number.. 15 478
Establishments with 100 employees or more	number.. 66	Production workers on August 12	number.. 15 304
All employees	number.. 29 720	Production workers on November 12	number.. 15 504
Total compensation ²	\$1,000.. 843 970	Production-worker hours	1,000.. 27 138
Annual payroll	\$1,000.. 739 809	Production-worker wages	\$1,000.. 288 157
Total fringe benefits	\$1,000.. 104 161	Total cost of materials	\$1,000.. 1 736 869
Production workers, average for year	number.. 18 819	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 106 654
Production workers on March 12	number.. 19 159	Cost of resales	D
Production workers on May 12	number.. 18 861	Cost of fuels	\$1,000.. 4 540
Production workers on August 12	number.. 18 548	Cost of purchased electricity	\$1,000.. 13 908
Production workers on November 12	number.. 18 708	Cost of contract work	\$1,000.. D
Production-worker hours	1,000.. 33 686	Quantity of electricity purchased for heat and power	1,000 kWh.. 153 537
Production-worker wages	\$1,000.. 372 241	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 3 152 891	Total value of shipments	\$1,000.. 3 068 646
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 928 963	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. D	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 7 340	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 16 738	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. D	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 178 816	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 5 206 673	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 4 192 764	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 708 484	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 305 425	Coverage ratio	percent.. X
Value of resales	\$1,000.. D	Value added	\$1,000.. 1 377 638
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 344 517
Other miscellaneous receipts	\$1,000.. D	Finished goods inventories, beginning of year	\$1,000.. 119 257
Primary products specialization ratio	percent.. 85	Work-in-process inventories, beginning of year	\$1,000.. 87 659
Value of primary products shipments made in all industries	\$1,000.. 4 795 915	Materials and supplies inventories, beginning of year	\$1,000.. 137 601
Value of primary products shipments made in this industry	\$1,000.. 4 192 764	Total inventories, end of year	\$1,000.. 374 213
Value of primary products shipments made in other industries	\$1,000.. 603 151	Finished goods inventories, end of year	\$1,000.. 151 642
Coverage ratio	percent.. 87	Work-in-process inventories, end of year	\$1,000.. 101 135
Value added	\$1,000.. 2 118 018	Materials and supplies inventories, end of year	\$1,000.. 121 436
Total inventories, beginning of year	\$1,000.. 576 468	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 199 261	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 147 514	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 229 693	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 626 323	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 242 303	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 168 708	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 215 312	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 268 783	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 46 090	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 14 199	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 31 891	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 15 383	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 299 490	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 33 646	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 52 378	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 35 780	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 16 598	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. S	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. S	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. S	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. S	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. S	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. S		
Response coverage ratio ⁴	percent.. S	3152332, Women's & girls' cut & sew dress mfg—jobber	
Cost of purchased advertising services ³	\$1,000.. S	Companies ¹	number.. N
Response coverage ratio ⁴	percent.. S	All establishments	number.. 135
Cost of purchased software and other data processing services ³	\$1,000.. S	Establishments with 1 to 19 employees	number.. 63
Response coverage ratio ⁴	percent.. S	Establishments with 20 to 99 employees	number.. 52
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. S	Establishments with 100 employees or more	number.. 20
Response coverage ratio ⁴	percent.. S	All employees	number.. 6 623
		Total compensation ²	\$1,000.. 243 052
3152331, Women's & girls' cut & sew dress mfg—manufacturer		Annual payroll	\$1,000.. 215 441
Companies ¹	number.. N	Total fringe benefits	\$1,000.. 27 611
All establishments	number.. 641	Production workers, average for year	number.. 3 329
Establishments with 1 to 19 employees	number.. 385	Production workers on March 12	number.. 3 485
Establishments with 20 to 99 employees	number.. 210	Production workers on May 12	number.. 3 383
Establishments with 100 employees or more	number.. 46	Production workers on August 12	number.. 3 244
All employees	number.. 23 097	Production workers on November 12	number.. 3 204
Total compensation ²	\$1,000.. 600 918	Production-worker hours	1,000.. 6 548
Annual payroll	\$1,000.. 524 368	Production-worker wages	\$1,000.. 84 084
Total fringe benefits	\$1,000.. 76 550		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315233, WOMEN'S & GIRLS' CUT & SEW DRESS MFG—Con.		315233, WOMEN'S & GIRLS' CUT & SEW DRESS MFG—Con.	
3152332, Women's & girls' cut & sew dress mfg—jobber—Con.		3152332, Women's & girls' cut & sew dress mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	1 416 022	Finished goods inventories, end of year	\$1,000..
Cost of resales	822 309	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	D	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	2 800	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	2 830	Total capital expenditures (new and used)	\$1,000..
	D	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	25 279	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power ...	-	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	2 138 027	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	231 951	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	80 004	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	59 855	Response coverage ratio ⁴	percent..
	92 092		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
	E ¹	Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315233. WOMEN'S & GIRLS' CUT & SEW DRESS MFG												
All establishments	2	776	328	29 720	739 809	18 819	33 686	372 241	2 118 018	3 152 891	5 206 673	46 090
Establishments with 1 to 4 employees	5	196	—	383	8 001	262	367	4 043	24 231	35 419	59 681	630
Establishments with 5 to 9 employees	2	116	—	780	15 476	455	692	8 014	58 632	64 133	120 980	634
Establishments with 10 to 19 employees	3	136	—	1 855	41 784	1 247	1 976	22 775	114 125	143 631	257 079	1 732
Establishments with 20 to 49 employees	3	184	184	5 673	136 252	3 990	6 837	72 045	376 962	550 614	920 101	6 138
Establishments with 50 to 99 employees	1	78	78	5 306	145 467	3 371	6 084	67 203	463 150	713 111	1 173 945	6 100
Establishments with 100 to 249 employees	2	44	44	6 323	177 322	3 703	6 984	81 845	470 747	841 586	1 287 753	15 005
Establishments with 250 to 499 employees	3	16	16	4 737	130 240	2 876	5 068	58 634	327 320	479 715	801 865	8 848
Establishments with 500 to 999 employees	—	4	4	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	2	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	148	—	536	6 587	269	354	3 344	17 428	21 729	39 189	395

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315233	Women's & girls' cut & sew dress mfg	776	29 720	739 809	18 819	33 686	372 241	2 118 018	3 152 891	5 206 673	46 090

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315233	Women's and girls' cut and sew dresses	N	X	X	4 795 915	N	X	X	N
3152330	Women's and girls' dresses @	N	X	X	4 795 915	N	X	X	N
31523300	Women's and girls' dresses	N	X	X	4 569 042	N	X	X	N
3152330010	Women's, misses', and juniors' dresses	555	X	X	4 133 854	N	X	X	N
3152330020	Girls' dresses	105	X	X	435 188	N	X	X	N
3152330Y	Women's and girls' cut and sew dresses, nsk	N	X	X	226 873	N	X	X	N
3152330YWW	Women's and girls' cut and sew dresses, nsk, for non-administrative record establishments	N	X	X	184 470	N	X	X	N
3152330YWY	Women's and girls' cut and sew dresses, nsk, for administrative record establishments	N	X	X	42 403	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315233	WOMEN'S & GIRLS' CUT & SEW DRESS MFG				
31321023	Broadwoven fabrics (piece goods)	X	857 514	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	141 818	X	N
31324000	Knit fabrics	X	305 769	X	N
31311003	Yarn, all fibers	X	88 664	X	N
33999301	Buttons, zippers, and slide fasteners	X	90 385	X	N
00970099	All other materials and components, parts, containers, and supplies	X	117 917	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	326 896	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315233 WOMEN'S AND GIRLS' CUT AND SEW DRESS MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' dresses from purchased fabric. Women's and girls' dress jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315233 include the following SIC industries:

2335 Women's dresses (pt)

2361 Girls' and children's dresses and blouses (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census –

Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315233 do not include establishments primarily engaged in custom tailoring.

3152331 Women's and Girls' Cut and Sew Dress Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' dresses from purchased fabric.

3152332 Women's and Girls' Cut and Sew Dress Manufacturing - Jobbers

Establishments engaged as women's and girls' dress jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. **Products Statistics (Tables 6a and 6b)**

NAICS product code	Footnote
@3152330	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. **Materials Consumed by Kind (Table 7)**

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
315111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2325902	2325902
3151111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVW pt	2251400	2251400	3151921YVW	2254100	2254100	315211WYWW pt ...	2326902	2326902
3151111YVW pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113111	2251612	2251612	3151923120	2254413	2254413	315211WYWW pt ...	2331002 pt	2331002 pt
3151113221	2251614	2251614	3151923YVW	2254400	2254400	315211WYWW pt ...	2334002 pt	2334002 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	315211WYWW pt ...	2335002 pt	2335002 pt
3151113341	2251615	2251615	3151927110	2259030	2259030	315211WYWW pt ...	2335002 pt	2335002 pt
3151113351	2251617	2251617	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113391	2251620	2251619	3151927YVW	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151113YVW	2251600	2251600	315192W pt	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115	22518	22518	315192W pt	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115121	2251814	2251814	315192WYVW pt...	2254000	2254000	3152123100 pt	2335900	2335900
3151115131	2251817	2251817	315192WYVW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
3151115YVW	2251800	2251800	315192WYVW pt...	2254002	2254002	3152125	23379 pt	23379 pt
315111W pt.....	22510	22510	315192WYVW pt...	2259002 pt	2259002 pt	3152125100	2337900	2337900
315111W pt.....	22520 pt	22520 pt	3152111	23119 pt	23119 pt	3152127 pt.....	23399 pt	23399 pt
315111WYVW pt.....	2251000	2251000	3152111100	2311900	2311900	3152127 pt.....	23699 pt	23699 pt
315111WYVW pt.....	2252000 pt	2252000 pt	3152111100	2311900	2311900	3152127100 pt	2339900	2339900
315111WYVW pt.....	2251002	2251002	3152113	23219 pt	23219 pt	3152127100 pt	2369900	2369900
315111WYVW pt.....	2252002 pt	2252002 pt	3152113100	2321900	2321900	3152127	23419 pt	23419 pt
3151191	22522	22522	31521115	23229	23229	3152127100 pt	2341901	2341901
3151191111	2252223	2252223	3152115100	2322900	2322900	3152127100 pt	2341903	2341903
3151191221	2252225	2252225	3152117	23259 pt	23259 pt	3152129	2341900	2341900
3151191331	2252233	2252233	3152117100	2325900	2325900	3152129100 pt	2341900	2341900
3151191441	2252235	2252235	3152119	23269 pt	23269 pt	3152129100 pt	2341900	2341900
3151191551	2252243	2252243	3152119100	2326900	2326900	315212B	23429	23429
3151191561	2252245	2252245	315211B	23299 pt	23299 pt	315212B100	2342900	2342900
3151191591	2252287	2252287	315211B100	2329900	2329900	315212D	23849 pt	23849 pt
3151191YVW	2252200	2252200	315211D	23849 pt	23849 pt	315212D100 pt	2384995	2384995
3151193	22525 pt	22525 pt	315211D100 pt	2384994	2384994	315212D100 pt	2384900 pt	2384900 pt
3151193111	2252516	2252515	315211D100 pt	2384900 pt	2384900 pt	315212F	23859 pt	23859 pt
3151193121	2252501	2252501	315211F	23859 pt	23859 pt	315212F100 pt	2385920	2385920
3151193131	2252503	2252503	315211F100 pt	2385910	2385910	315212F100 pt	2385900	2385900
3151193241	2252521	2252521	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23959 pt
3151193251	2252527	2252527	315211H	23959 pt	23959 pt	315212H100 pt	2395900 pt	2395900 pt
3151193261	2252533	2252531	315211H100 pt	2395900 pt	2395800 pt	315212H100 pt	2395994	2395833
3151193271	2252551	2252551	315211H100 pt	2395993	2395811	315212J	23899	23899
3151193371	2252557	2252557	315211W pt	23110 pt	23110 pt	315212J100 pt	2389993	2389993
3151193381	2252557	2252557	315211W pt	23119 pt	23119 pt	315212J100 pt	2389900	2389900
3151193391	2252561	2252561	315211W pt	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
31511933B1	2252588	2252581	315211W pt	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
3151193YVW	2252500 pt	2252500 pt	315211W pt	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
3151195	22526	22526	315211W pt	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
3151195111	2252625	2252625	315211W pt	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
3151195121	2252642	2252642	315211W pt	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151195131	2252651	2252651	315211W pt	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151195YVW	2252600	2252600	315211W pt	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
315119W	22520 pt	22520 pt	315211W pt	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
315119WYVW	2252000 pt	2252000 pt	315211W pt	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
315119WYVW	2252002 pt	2252002 pt	315211W pt	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
3151911	22534	22534	315211W pt	23850 pt	23850 pt	315212W pt.....	23610 pt	23610 pt
3151911100	2253400	2253400	315211W pt	23950 pt	23950 pt	315212W pt.....	23619 pt	23619 pt
3151913	22535	22535	315211WYVW pt...	2310000 pt	2310000 pt	315212W pt.....	23690 pt	23690 pt
3151913100	2253500	2253500	315211WYVW pt...	2321000 pt	2321000 pt	315212W pt.....	23699 pt	23699 pt
3151915	22536	22536	315211WYVW pt...	2322000 pt	2322000 pt	315212W pt.....	23840 pt	23840 pt
3151915100	2253600	2253600	315211WYVW pt...	2325000 pt	2325000 pt	315212W pt.....	23850 pt	23850 pt
3151917	2253A	2253A	315211WYVW pt...	2326000 pt	2326000 pt	315212W pt.....	23890 pt	23890 pt
3151917100	2253A00	2253A00	315211WYVW pt...	2329000 pt	2329000 pt	315212W pt.....	23899 pt	23899 pt
3151919	2253B	2253B	315211WYVW pt...	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151919100	2253B00	2253B00	315211WYVW pt...	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
315191A	2253C	2253C	315211WYVW pt...	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
315191A100	2253C00	2253C00	315211WYVW pt...	23850 pt	23850 pt	315212W pt.....	23610 pt	23610 pt
315191C	2253D	2253D	315211W pt	23950 pt	23950 pt	315212W pt.....	23619 pt	23619 pt
315191C110	2253D01	2253D01	315211WYVW pt...	2310000 pt	2310000 pt	315212W pt.....	23690 pt	23690 pt
315191C120	2253D05	2253D05	315211WYVW pt...	2321000 pt	2321000 pt	315212W pt.....	23699 pt	23699 pt
315191C130	2253D09	2253D09	315211WYVW pt...	2322000 pt	2322000 pt	315212W pt.....	23840 pt	23840 pt
315191CYVW	2253D00	2253D00	315211WYVW pt...	2325000 pt	2325000 pt	315212W pt.....	23850 pt	23850 pt
315191E	2253E	2253E	315211WYVW pt...	2326000 pt	2326000 pt	315212W pt.....	23890 pt	23890 pt
315191E100	2253E00	2253E00	315211WYVW pt...	2329000 pt	2329000 pt	315212W pt.....	23950 pt	23950 pt
315191EYVW	2253E02	2253E02	315211WYVW pt...	2341000 pt	2341000 pt	315212W pt.....	23850 pt	23850 pt
315191G	22590 pt	22590 pt	315211WYVW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
315191G100	2259020	2259020	315211WYVW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191W pt.....	22530	22530	315211WYVW pt...	2395000 pt	2395000 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
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Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing

1997

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1997 Economic Census

Manufacturing

Industry Series



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Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315234	Women's & girls' cut & sew suit, coat, skirt mfg	430	440	20 378	530 011	12 991	23 292	247 650	1 657 416	2 185 701	3 764 088	22 265
233720	Women's suits & coats (pt)	N	384	17 865	487 806	10 973	19 664	219 726	1 561 779	2 103 115	3 585 736	18 848
236970	Girls' & children's outerwear, n.e.c. (pt)	N	32	2 048	34 586	1 605	2 993	22 516	82 717	69 191	151 976	3 277
238550	Waterproof outer garments (pt)	N	24	465	7 619	413	635	5 408	12 920	13 395	26 376	140

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315234, WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG												
United States	2	440	205	20 378	530 011	12 991	23 292	247 650	1 657 416	2 185 701	3 764 088	22 265
California	-	93	33	2 277	52 024	1 621	2 717	28 513	154 366	186 564	336 276	1 750
Massachusetts	-	14	13	1 502	49 402	998	1 724	19 877	96 450	163 681	251 584	2 315
New Jersey	2	33	20	1 053	27 615	762	1 314	12 892	102 108	139 028	236 780	873
New York	2	144	67	6 014	177 526	3 201	5 723	73 720	554 219	869 128	1 434 172	5 586
North Carolina	3	10	7	1 018	25 547	420	863	6 538	39 357	52 441	93 935	3 012
Texas	-	32	19	2 151	37 211	1 931	3 539	27 380	82 843	86 623	166 983	1 039

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315234, WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG		315234, WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG—Con.	
Companies ¹	number.. 430	3152341, Women's & girls' cut & sew suit, coat, skirt mfg—manufacturer—Con.	
All establishments	number.. 440	Production workers, average for year	number.. 9 768
Establishments with 1 to 19 employees	number.. 235	Production workers on March 12	number.. 9 727
Establishments with 20 to 99 employees	number.. 161	Production workers on May 12	number.. 9 822
Establishments with 100 employees or more	number.. 44	Production workers on August 12	number.. 9 756
All employees	number.. 20 378	Production workers on November 12	number.. 9 767
Total compensation ²	\$1,000.. 632 209	Production-worker hours	1,000.. 17 804
Annual payroll	\$1,000.. 530 011	Production-worker wages	\$1,000.. 163 299
Total fringe benefits	\$1,000.. 102 198	Total cost of materials	\$1,000.. 971 418
Production workers, average for year	number.. 12 991	Cost of materials, parts, containers, etc., consumed	\$1,000.. 546 676
Production workers on March 12	number.. 12 896	Cost of resales	\$1,000.. 129 331
Production workers on May 12	number.. 13 058	Cost of fuels	\$1,000.. 3 848
Production workers on August 12	number.. 12 971	Cost of purchased electricity	\$1,000.. 7 047
Production workers on November 12	number.. 13 039	Cost of contract work	\$1,000.. 284 516
Production-worker hours	1,000.. 23 292	Quantity of electricity purchased for heat and power	1,000 kWh.. 83 098
Production-worker wages	\$1,000.. 247 650	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 2 185 701	Total value of shipments	\$1,000.. 1 806 524
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 201 141	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 302 210	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 4 758	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 9 131	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 668 461	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 108 450	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 3 764 088	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 2 328 531	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 1 057 294	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 378 263	Coverage ratio	percent.. X
Value of resales	\$1,000.. 372 993	Value added	\$1,000.. 839 033
Contract receipts	\$1,000.. D	Total inventories, beginning of year	\$1,000.. 221 747
Other miscellaneous receipts	\$1,000.. D	Finished goods inventories, beginning of year	\$1,000.. 108 809
Primary products specialization ratio	percent.. 68	Work-in-process inventories, beginning of year	\$1,000.. 27 593
Value of primary products shipments made in all industries	\$1,000.. 3 422 101	Materials and supplies inventories, beginning of year	\$1,000.. 85 345
Value of primary products shipments made in this industry	\$1,000.. 2 328 531	Total inventories, end of year	\$1,000.. 230 060
Value of primary products shipments made in other industries	\$1,000.. 1 093 570	Finished goods inventories, end of year	\$1,000.. 107 893
Coverage ratio	percent.. 68	Work-in-process inventories, end of year	\$1,000.. 32 436
Value added	\$1,000.. 1 657 416	Materials and supplies inventories, end of year	\$1,000.. 89 731
Total inventories, beginning of year	\$1,000.. 550 851	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 284 663	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 102 139	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 164 049	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 632 777	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 350 064	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 115 767	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 166 946	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 195 232	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 22 265	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 6 897	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 15 368	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 9 286	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 208 211	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 21 807	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 37 203	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 23 773	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 13 430	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 4 176	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 73	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 3 675	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 73	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 5 974	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 73	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 3 527	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 73	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 3 657	3152342, Women's & girls' cut & sew suit, coat, skirt mfg—jobber	
Response coverage ratio ⁴	percent.. 73	Companies ¹	number.. N
Cost of purchased advertising services ³	\$1,000.. 19 554	All establishments	number.. 88
Response coverage ratio ⁴	percent.. 73	Establishments with 1 to 19 employees	number.. 44
Cost of purchased software and other data processing services ³	\$1,000.. 5 606	Establishments with 20 to 99 employees	number.. 30
Response coverage ratio ⁴	percent.. 73	Establishments with 100 employees or more	number.. 14
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 771	All employees	number.. 6 072
Response coverage ratio ⁴	percent.. 73	Total compensation ²	\$1,000.. 245 666
3152341, Women's & girls' cut & sew suit, coat, skirt mfg—manufacturer		Annual payroll	\$1,000.. 202 881
Companies ¹	number.. N	Total fringe benefits	\$1,000.. 42 785
All establishments	number.. 352	Production workers, average for year	number.. 3 223
Establishments with 1 to 19 employees	number.. 191	Production workers on March 12	number.. 3 169
Establishments with 20 to 99 employees	number.. 131	Production workers on May 12	number.. 3 236
Establishments with 100 employees or more	number.. 30	Production workers on August 12	number.. 3 215
All employees	number.. 14 306	Production workers on November 12	number.. 3 272
Total compensation ²	\$1,000.. 386 543	Production-worker hours	1,000.. 5 488
Annual payroll	\$1,000.. 327 130	Production-worker wages	\$1,000.. 84 351
Total fringe benefits	\$1,000.. 59 413		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315234, WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG—Con.		315234, WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG—Con.	
3152342, Women's & girls' cut & sew suit, coat, skirt mfg—jobber—Con.		3152342, Women's & girls' cut & sew suit, coat, skirt mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	1 214 283	Finished goods inventories, end of year	\$1,000..
Cost of resales	654 465	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	172 879	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	910	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	2 084	Total capital expenditures (new and used)	\$1,000..
	383 945	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	1 957 564	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	329 104	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	175 854	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	74 546	Response coverage ratio ⁴	percent..
	78 704		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315234. WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG												
All establishments	2	440	205	20 378	530 011	12 991	23 292	247 650	1 657 416	2 185 701	3 764 088	22 265
Establishments with 1 to 4 employees	3	84	—	189	4 457	140	225	2 397	15 678	24 862	41 459	162
Establishments with 5 to 9 employees	2	64	—	455	9 715	284	490	5 460	43 656	70 728	113 385	323
Establishments with 10 to 19 employees	1	87	—	1 200	30 864	808	1 383	14 490	102 925	205 891	306 913	1 145
Establishments with 20 to 49 employees	3	107	107	3 339	87 952	2 443	4 275	45 840	239 100	348 038	586 288	2 795
Establishments with 50 to 99 employees	—	54	54	3 794	94 966	2 827	4 909	48 305	252 120	290 927	542 635	1 919
Establishments with 100 to 249 employees	4	31	31	4 468	129 228	2 751	5 391	56 759	353 161	499 655	839 834	7 679
Establishments with 250 to 499 employees	—	7	7	2 416	49 155	1 599	2 789	29 410	374 704	377 124	742 024	3 457
Establishments with 500 to 999 employees	—	5	5	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	76	—	438	6 506	291	420	3 585	14 124	21 128	35 553	281

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315234	Women's & girls' cut & sew suit, coat, skirt mfg .	440	20 378	530 011	12 991	23 292	247 650	1 657 416	2 185 701	3 764 088	22 265
3152341	Women's, misses', juniors', and girls' coats and capes (except fur, leather, down- and feather-filled, and raincoats)	72	3 291	79 899	2 065	3 663	36 591	175 026	259 561	437 077	1 955
3152343	Women's, misses', juniors', and girls' suits, pantsuits, and military-type uniform jackets (except ski and snow suits)	61	1 357	38 971	971	1 713	20 232	77 026	151 591	229 237	946
3152345	Women's, misses', juniors', and girls' skirts, tailored jackets, and vests ...	186	14 311	380 845	9 060	16 388	175 675	1 356 187	1 699 055	2 974 492	18 479
3152347	Women's, misses', juniors', and girls' raincoats and raincoats	5	271	4 983	248	425	3 634	8 620	8 035	16 633	35

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315234	Women's and girls' cut and sew suits, coats, tailored jackets and skirts	N	X	X	3 422 101	N	X	X	N
3152341	Women's, misses', juniors', and girls' coats and capes (except fur, leather, down- and feather-filled, and raincoats) @	N	X	X	532 637	N	X	X	N
31523410	Women's, misses', juniors', and girls' coats and capes (except fur, leather, down- and feather-filled, and raincoats)	N	X	X	521 291	N	X	X	N
3152341010	Women's, misses', and juniors' coats and capes (except fur, leather, down- and feather-filled, ski, and raincoats)	109	X	X	500 214	N	X	X	N
3152341020	Girls' coats, jackets, suits, snowsuits, and coat-and-legging sets (except raincoats)	15	X	X	21 077	N	X	X	N
3152341Y	Women's, misses', juniors', and girls' coats and capes (except fur, leather, down- and feather-filled, and raincoats), nsk	N	X	X	11 346	N	X	X	N
3152341YVW	Women's, misses', juniors', and girls' coats and capes (except fur, leather, down- and feather-filled, and raincoats), nsk	N	X	X	11 346	N	X	X	N
3152343	Women's, misses', juniors', and girls' suits, pantsuits, and military-type uniform jackets (except ski and snow suits) @	N	X	X	352 249	N	X	X	343 180
31523430	Women's, misses', and juniors' suits, pantsuits, and military-type uniform jackets (except ski and snowsuits)	N	X	X	352 249	N	X	X	N
3152343000	Women's, misses', and juniors' suits, pantsuits, and military-type uniform jackets (except ski and snowsuits)	104	X	X	352 249	113	X	X	343 180
3152345	Women's, misses', juniors', and girls' skirts, tailored jackets, and vests @	N	X	X	2 479 588	N	X	X	N
31523450	Women's, misses', juniors', and girls' separate skirts, including military-type uniform skirts	N	X	X	1 302 038	N	X	X	N
3152345010	Women's, misses', and juniors' separate skirts, including military-type uniform skirts	280	X	X	1 081 883	315	X	X	1 489 933
3152345030	Girls' other outerwear, including skirts, swimwear, sweatpants, leotards, neckwear, and headwear	56	X	X	220 155	N	X	X	N
31523451	Women's, misses', and juniors' tailored jackets and vests, including military-type uniform jackets (except fur and leather)	N	X	X	1 177 550	N	X	X	N
3152345120	Women's, misses', and juniors' tailored jackets and vests, including military-type uniform jackets (except fur and leather)	204	X	X	1 177 550	235	X	X	1 071 841
3152345Y	Women's, misses', juniors', and girls' skirts, tailored jackets, and vests, nsk	N	X	X	-	N	X	X	N
3152345YVW	Women's, misses', juniors', and girls' skirts, tailored jackets, and vests, nsk	N	X	X	-	N	X	X	N
3152347	Women's, misses', juniors', and girls' raincoats and raincoats @	N	X	X	19 563	N	X	X	N
31523470	Women's, misses', juniors', and girls' raincoats and raincoats	N	X	X	19 563	N	X	X	N
3152347000	Women's, misses', juniors', and girls' raincoats and raincoats	12	X	X	19 563	N	X	X	N
315234W	Women's and girls' cut and sew suits, coats, tailored jackets and skirts, nsk, total	N	X	X	38 064	N	X	X	N
315234WY	Women's and girls' cut and sew suits, coats, tailored jackets and skirts, nsk, total	N	X	X	38 064	N	X	X	N
315234WYVW	Women's and girls' cut and sew suits, coats, tailored jackets and skirts, nsk, for nonadministrative-record establishments	N	X	X	6 657	N	X	X	N
315234WYVWY	Women's and girls' cut and sew suits, coats, tailored jackets and skirts, nsk, for administrative-record establishments	N	X	X	31 407	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)		
		1997	1992	
3152341	WOMEN'S, MISSES', JUNIORS', AND GIRLS' COATS AND CAPES (EXCEPT FUR, LEATHER, DOWN- AND FEATHER-FILLED, AND RAINCOATS) @			
	United States	532 637	N	
	California	59 102	N	
	Massachusetts	96 837	N	
	New Jersey	68 368	N	
	New York	216 985	N	
	Pennsylvania	19 528	N	
Texas	2 978	N		
3152343	WOMEN'S, MISSES', JUNIORS', AND GIRLS' SUITS, PANTSUITS, AND MILITARY-TYPE UNIFORM JACKETS (EXCEPT SKI AND SNOW SUITS) @			
	United States	352 249	343 180	
	California	48 183	45 270	
	Florida	15 515	32 802	
	New York	175 274	195 873	
3152345	WOMEN'S, MISSES', JUNIORS', AND GIRLS' SKIRTS, TAILORED JACKETS, AND VESTS @			
	United States	2 479 588	N	
	Alabama	13 350	N	
	California	456 180	N	
	Connecticut	3 605	N	
	Florida	36 547	N	
	Georgia	58 789	N	
	Illinois	4 006	N	
	Massachusetts	132 868	N	
	New Jersey	212 521	N	
	New York	773 322	N	
	North Carolina	53 834	N	
	Pennsylvania	256 479	N	
	South Carolina	11 489	N	
	Tennessee	73 560	N	
	Texas	100 021	N	
	Wisconsin	5 461	N	
	3152347	WOMEN'S, MISSES', JUNIORS', AND GIRLS' RAINCOATS AND RAINCAPES @		
		United States	19 563	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315234	WOMEN'S & GIRLS' CUT & SEW SUIT, COAT, SKIRT MFG				
31321023	Broadwoven fabrics (piece goods)	X	795 292	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	36 978	X	N
31324000	Knit fabrics	X	96 636	X	N
31311003	Yarn, all fibers	X	21 115	X	N
33999301	Buttons, zippers, and slide fasteners	X	70 341	X	N
00970099	All other materials and components, parts, containers, and supplies	X	30 381	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	150 398	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315234 WOMEN'S AND GIRLS' CUT AND SEW SUIT, COAT, TAILORED JACKET, AND SKIRT MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' suits, pantsuits, skirts, tailored jackets, vests, raincoats, and other tailored coats, (except fur and leather coats) from purchased fabric. Women's and girls' suit, coat, tailored jacket, and skirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315234 include the following SIC industries:

- 2337 Women's suits and coats (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

3152341 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' suits, pantsuits, skirts, tailored jackets, vests, raincoats, and other tailored coats, (except fur and leather coats) from purchased fabric.

3152342 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing - Jobbers

Establishments engaged as women's and girls' suit, coat, tailored jacket, and skirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152341	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152343	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152345	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152347	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259038 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt						
			3152113	23219 pt	23219 pt	3152127 pt.....	23699 pt	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2339900	2339900
3151191111	2252223	2252223				3152127100 pt	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt	23419 pt
3151191441	2252235	2252235				3152129100 pt	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt	93000 pt
3151193121	2252501	2252501				315212D100 pt	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
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3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252581				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
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3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
			315211W pt.....	23850 pt	23850 pt	315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23950 pt	23950 pt	315212W pt.....	23619 pt	23619 pt
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			315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23699 pt	23699 pt
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3151919	2253B	2253B	315211WYWW pt...	2329000 pt	2329000 pt	315212W pt.....	23890 pt	23890 pt
3151919100	2253B00	2253B00	315211WYWW pt...	2341000 pt	2341000 pt			
			315211WYWW pt...	2384000 pt	2384000 pt			
315191A	2253C	2253C	315211WYWW pt...	2385000 pt	2385000 pt			
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			315211WYWW pt...	2395000 pt	2395000 pt			
315191C	2253D	2253D						
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05						
315191C130	2253D09	2253D09						
315191CYVV	2253D00	2253D00						
315191E	2253E	2253E						
315191E100	2253E00	2253E00						
315191EYVV	2253E02	2253E02						
315191G	22590 pt	22590 pt						
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
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1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
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3152910YVW pt...	2385000 pt.....	2385000 pt	3159915131.....	2353309.....	2353309	315999CVVW pt....	2399000 pt.....	2399000 pt
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3152910YVW pt...	2361002 pt.....	2361002 pt	315991WYWW.....	2353000.....	2353000	315999G.....	56990 pt.....	56990 pt
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315292W pt.....	23710 pt.....	23710 pt	315992W pt.....	31510 pt.....	31510 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	23990 pt.....	23990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	3151000 pt.....	3151000 pt	315999W pt.....	56990 pt.....	56990 pt
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315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	3151002.....	3151002	315999WYVW pt....	2385000 pt.....	2385000 pt
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3152995111.....	2389081.....	2389081	3159930YVW.....	2323002.....	2323002	315999WYVW pt....	2385002 pt.....	2385002 pt
3152995121.....	2389091.....	2389091	3159991.....	23397 pt.....	23397 pt	315999WYVW pt....	2387002.....	2387002
3152995131.....	2389098.....	2389098	3159991100.....	2339770.....	2339770	315999WYVW pt....	2389002 pt.....	2389002 pt
3152995YVW.....	2389000 pt.....	2389000 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt....	2396002 pt.....	2396002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993100.....	2385190.....	2385190	315999WYVW pt....	2399002 pt.....	2399002 pt
						315999WYVW pt....	5699002.....	5699000 pt

Women's and Girls' Cut and Sew Other Outerwear Manufacturing

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315239	Women's & girls' cut & sew other outerwear mfg	819	872	56 834	1 242 434	42 148	78 525	693 849	3 630 172	4 583 505	8 162 705	133 262
233920	Women's outerwear, n.e.c. (pt)	N	768	52 755	1 169 451	38 946	72 279	645 601	3 408 040	4 309 219	7 671 413	129 538
236980	Girls' & children's outerwear, n.e.c. (pt)	N	104	4 079	72 983	3 202	6 246	48 248	222 132	274 286	491 292	3 724
238560	Waterproof outer garments (pt)	N	-	-	-	-	-	-	-	-	-	-

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315239, WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG												
United States	1	872	398	56 834	1 242 434	42 148	78 525	693 849	3 630 172	4 583 505	8 162 705	133 262
California	1	313	125	13 975	314 328	9 939	19 056	169 596	1 088 249	1 294 264	2 369 400	75 571
Florida	2	47	16	1 425	22 011	960	1 578	13 300	59 592	56 246	114 993	1 633
Georgia	-	28	15	1 766	34 422	1 291	2 050	23 523	110 608	186 218	294 337	1 698
Illinois	2	7	3	158	2 024	139	199	1 703	3 479	3 556	7 064	65
Kentucky	1	9	9	2 819	44 725	2 592	5 099	38 938	65 913	106 242	171 744	952
Massachusetts	-	14	7	473	13 195	317	609	6 392	44 899	71 562	108 761	606
Mississippi	1	10	7	2 123	31 850	1 824	3 402	23 150	52 011	163 526	214 032	1 210
New Jersey	-	30	17	4 242	180 022	1 836	3 780	56 508	350 477	556 203	903 513	6 472
New York	5	139	61	5 297	175 765	2 349	3 919	41 798	421 038	567 829	998 333	7 678
Ohio	9	6	3	433	11 387	369	1 016	8 506	24 599	18 274	42 676	564
Oklahoma	2	6	3	108	1 609	74	109	853	4 710	4 384	8 848	82
Pennsylvania	1	39	21	3 331	58 938	2 607	4 485	40 367	123 672	93 958	218 727	1 279
Texas	-	39	22	4 951	91 653	4 228	7 322	64 415	383 146	426 783	805 127	15 215
Virginia	2	16	12	1 680	29 036	1 343	2 699	21 349	91 768	155 048	249 331	2 901
Washington	-	11	6	854	16 054	757	1 621	12 484	46 589	62 595	107 590	607

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315239, WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG		315239, WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG—Con.	
Companies ¹	number.. 819	3152391, Women's & girls' cut & sew other outerwear mfg—manufacturer—Con.	
All establishments	number.. 872	Production workers, average for year	number.. 35 336
Establishments with 1 to 19 employees	number.. 474	Production workers on March 12	number.. 35 857
Establishments with 20 to 99 employees	number.. 269	Production workers on May 12	number.. 35 845
Establishments with 100 employees or more	number.. 129	Production workers on August 12	number.. 34 561
All employees	number.. 56 834	Production workers on November 12	number.. 35 081
Total compensation ²	\$1,000.. 1 494 693	Production-worker hours	1,000.. 65 407
Annual payroll	\$1,000.. 1 242 434	Production-worker wages	\$1,000.. 584 112
Total fringe benefits	\$1,000.. 252 259	Total cost of materials	\$1,000.. 2 523 748
Production workers, average for year	number.. 42 148	Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 898 516
Production workers on March 12	number.. 43 141	Cost of resales	\$1,000.. 59 832
Production workers on May 12	number.. 42 566	Cost of fuels	\$1,000.. 13 239
Production workers on August 12	number.. 41 180	Cost of purchased electricity	\$1,000.. 32 215
Production workers on November 12	number.. 41 705	Cost of contract work	\$1,000.. 519 946
Production-worker hours	1,000.. 78 525	Quantity of electricity purchased for heat and power	1,000 kWh.. 402 343
Production-worker wages	\$1,000.. 693 849	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 4 583 505	Total value of shipments	\$1,000.. 5 098 078
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 818 001	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 414 527	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 15 618	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 37 431	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 1 297 928	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 477 917	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 8 162 705	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 5 461 747	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 2 098 161	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 602 797	Coverage ratio	percent.. X
Value of resales	\$1,000.. 599 638	Value added	\$1,000.. 2 562 955
Contract receipts	\$1,000.. -	Total inventories, beginning of year	\$1,000.. 637 144
Other miscellaneous receipts	\$1,000.. 3 159	Finished goods inventories, beginning of year	\$1,000.. 298 169
Primary products specialization ratio	percent.. 72	Work-in-process inventories, beginning of year	\$1,000.. 151 340
Value of primary products shipments made in all industries	\$1,000.. 7 563 541	Materials and supplies inventories, beginning of year	\$1,000.. 187 635
Value of primary products shipments made in this industry	\$1,000.. 5 461 747	Total inventories, end of year	\$1,000.. 640 672
Value of primary products shipments made in other industries	\$1,000.. 2 101 794	Finished goods inventories, end of year	\$1,000.. 286 154
Coverage ratio	percent.. 72	Work-in-process inventories, end of year	\$1,000.. 151 980
Value added	\$1,000.. 3 630 172	Materials and supplies inventories, end of year	\$1,000.. 202 538
Total inventories, beginning of year	\$1,000.. 994 703	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, beginning of year	\$1,000.. 502 169	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, beginning of year	\$1,000.. 222 493	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, beginning of year	\$1,000.. 270 041	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Total inventories, end of year	\$1,000.. 1 076 190	Total retirements ²	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 535 690	Gross book value of total assets at end of year	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 239 944	Total depreciation during year ²	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 300 556	Total rental payments ²	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 754 307	Buildings and other structures rental payments ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 133 262	Machinery and equipment rental payments ²	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 55 442	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 77 820	Response coverage ratio ⁴	percent.. X
Total retirements ²	\$1,000.. 40 078	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 847 491	Response coverage ratio ⁴	percent.. X
Total depreciation during year ²	\$1,000.. 131 959	Cost of purchased communications services ³	\$1,000.. X
Total rental payments ²	\$1,000.. 79 013	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 57 251	Cost of purchased legal services ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 21 762	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 9 984	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 11 884	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 16 371	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 12 133	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 67	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 6 726		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased advertising services ³	\$1,000.. 47 766		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased software and other data processing services ³	\$1,000.. 11 100		
Response coverage ratio ⁴	percent.. 67		
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 737		
Response coverage ratio ⁴	percent.. 67		
3152391, Women's & girls' cut & sew other outerwear mfg—manufacturer		3152392, Women's & girls' cut & sew other outerwear mfg—jobber	
Companies ¹	number.. N	Companies ¹	number.. N
All establishments	number.. 745	All establishments	number.. 127
Establishments with 1 to 19 employees	number.. 415	Establishments with 1 to 19 employees	number.. 59
Establishments with 20 to 99 employees	number.. 228	Establishments with 20 to 99 employees	number.. 41
Establishments with 100 employees or more	number.. 102	Establishments with 100 employees or more	number.. 27
All employees	number.. 47 550	All employees	number.. 9 284
Total compensation ²	\$1,000.. 1 240 032	Total compensation ²	\$1,000.. 254 661
Annual payroll	\$1,000.. 1 024 451	Annual payroll	\$1,000.. 217 983
Total fringe benefits	\$1,000.. 215 581	Total fringe benefits	\$1,000.. 36 678
Production workers, average for year	number.. 6 812	Production workers, average for year	number.. 6 812
Production workers on March 12	number.. 7 284	Production workers on March 12	number.. 7 284
Production workers on May 12	number.. 6 721	Production workers on May 12	number.. 6 721
Production workers on August 12	number.. 6 619	Production workers on August 12	number.. 6 619
Production workers on November 12	number.. 6 624	Production workers on November 12	number.. 6 624
Production-worker hours	1,000.. 13 118	Production-worker hours	1,000.. 13 118
Production-worker wages	\$1,000.. 109 737	Production-worker wages	\$1,000.. 109 737

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315239, WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG—Con.		315239, WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG—Con.	
3152392, Women's & girls' cut & sew other outerwear mfg—jobber—Con.		3152392, Women's & girls' cut & sew other outerwear mfg—jobber—Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	2 059 757	Finished goods inventories, end of year	\$1,000..
Cost of resales	919 485	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	354 695	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	2 379	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	5 216	Total capital expenditures (new and used)	\$1,000..
	777 982	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power	1,000 kWh..	Total retirements ²	\$1,000..
		Gross book value of total assets at end of year	\$1,000..
Total value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Primary products value of shipments	X	Total rental payments ²	\$1,000..
Secondary products value of shipments	X	Buildings and other structures rental payments ²	\$1,000..
Total miscellaneous receipts	X	Machinery and equipment rental payments ²	\$1,000..
Value of resales	X	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Contract receipts	X	Response coverage ratio ⁴	percent..
Other miscellaneous receipts	X	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased legal services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Coverage ratio	percent..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased software and other data processing services ³	\$1,000..
Finished goods inventories, beginning of year	357 559	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	204 000	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
Materials and supplies inventories, beginning of year	71 153	Response coverage ratio ⁴	percent..
	82 406		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315239. WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG												
All establishments	1	872	398	56 834	1 242 434	42 148	78 525	693 849	3 630 172	4 583 505	8 162 705	133 262
Establishments with 1 to 4 employees	7	197	—	371	7 705	326	512	5 489	19 092	25 726	45 307	448
Establishments with 5 to 9 employees	2	126	—	868	17 341	665	1 095	11 302	74 366	80 256	154 259	1 127
Establishments with 10 to 19 employees	2	151	—	2 084	37 285	1 699	2 451	22 364	83 496	108 073	193 102	2 068
Establishments with 20 to 49 employees	3	176	176	5 477	100 499	4 153	7 517	57 134	266 845	385 895	648 208	4 887
Establishments with 50 to 99 employees	1	93	93	6 568	146 759	4 743	8 575	78 893	452 826	572 299	1 010 398	7 022
Establishments with 100 to 249 employees	1	85	85	13 964	288 058	10 784	20 103	170 542	1 017 491	1 395 037	2 400 805	16 083
Establishments with 250 to 499 employees	—	22	22	8 004	164 359	6 391	13 511	110 868	604 232	741 732	1 335 535	14 329
Establishments with 500 to 999 employees	—	17	17	10 885	183 219	8 867	16 332	137 612	472 208	720 879	1 182 592	17 068
Establishments with 1,000 to 2,499 employees	2	4	4	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	1	1	D	D	D	D	D	D	D	D	D
Administrative records ²	9	166	—	828	10 415	723	916	7 802	23 775	26 306	50 428	609

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315239	Women's & girls' cut & sew other outerwear mfg	872	56 834	1 242 434	42 148	78 525	693 849	3 630 172	4 583 505	8 162 705	133 262
3152391	Women's, misses', and juniors' washable service apparel, including aprons, smocks, hovers, uniforms for maids, nurses, etc., and hospital patient wear	40	3 211	62 274	2 393	4 532	41 262	132 177	183 510	322 704	4 049
3152393	Women's, misses', and juniors' swimwear	93	7 046	142 912	5 416	10 579	86 533	425 108	410 219	840 340	5 420
3152395	Women's, misses', juniors', and girls' slacks, including jeans and jean-cut casual slacks	197	29 118	633 170	22 544	41 419	366 300	2 315 501	3 148 469	5 412 625	110 172
3152397	Women's, misses', and juniors' sweaters, shorts, and other outerwear, and girls' sweaters	178	12 264	320 833	7 730	15 803	146 664	536 863	587 770	1 120 562	9 797

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315239	Other women's and girls' cut and sew outerwear	N	X	X	7 563 541	N	X	X	N
3152391	Women's, misses', and juniors' washable service apparel, including aprons, smocks, hooovers, uniforms for maids, nurses, etc., and hospital patient wear @	N	X	X	280 530	N	X	X	285 329
31523910	Women's, misses', and juniors' washable service apparel, including aprons, smocks, hooovers, uniforms for maids, nurses, etc., and hospital patient wear	N	X	X	280 530	N	X	X	N
3152391000	Women's, misses', and juniors' washable service apparel, including aprons, smocks, hooovers, uniforms for maids, nurses, etc., and hospital patient wear	54	X	X	280 530	71	X	X	285 329
3152393	Women's, misses', and juniors' swimwear @	N	X	X	799 779	N	X	X	587 040
31523930	Women's, misses', and juniors' swimwear	N	X	X	799 779	N	X	X	N
3152393000	Women's, misses', and juniors' swimwear	103	X	X	799 779	74	X	X	587 040
3152395	Women's, misses', juniors', and girls' slacks, including jeans and jean-cut casual slacks @	N	X	X	4 674 436	N	X	X	N
31523950	Women's, misses', juniors', and girls' slacks, including jeans and jean-cut casual slacks	N	X	X	4 674 436	N	X	X	N
3152395010	Women's, misses', and juniors' slacks, including jeans and jean-cut casual slacks	349	X	X	4 223 797	N	X	X	N
3152395020	Girls' slacks, including jeans and jean-cut casual slacks, and play garments	78	X	X	450 639	N	X	X	N
3152395Y	Women's, misses', juniors', and girls' slacks, including jeans and jean-cut casual slacks, nsk	N	X	X	-	N	X	X	N
3152395YVV	Women's, misses', juniors', and girls' slacks, including jeans and jean-cut casual slacks, nsk	N	X	X	-	N	X	X	N
3152397	Women's, misses', and juniors' sweaters, shorts, and other outerwear, and girls' sweaters @	N	X	X	1 567 030	N	X	X	N
31523970	Women's, misses', and juniors' shorts, including tennis skirts, pedal pushers, bermudas, and jamaicas	N	X	X	739 563	N	X	X	N
3152397020	Women's, misses', and juniors' shorts, including tennis skirts, pedal pushers, bermudas, and jamaicas	148	X	X	739 563	179	X	X	599 368
31523971	Women's, misses', and juniors' sweaters and other outerwear, and girls' sweaters	N	X	X	802 330	N	X	X	N
3152397110	Women's, misses', and juniors' sweaters, including sweater vests \$	81	X	X	347 474	49	X	X	188 912
3152397130	Women's, misses', and juniors' other outerwear, including jogging pants and suits, ski suits and jackets, leotards, and nontailored jackets	156	X	X	445 725	214	X	X	486 873
3152397140	Girls' sweaters, including sweater vests \$	7	X	X	9 131	N	X	X	N
3152397Y	Women's, misses', and juniors' sweaters, shorts, and other outerwear, and girls' sweaters, nsk	N	X	X	25 137	N	X	X	N
3152397YVV	Women's, misses', and juniors' sweaters, shorts, and other outerwear, and girls' sweaters, nsk	N	X	X	25 137	N	X	X	N
3152399	Women's, misses', juniors', and girls' waterproof outer garments, including smocks and dress shields, plastics or rubberized	N	X	X	1 905	N	X	X	N
31523991	Women's, misses', juniors', and girls' waterproof outer garments, including smocks and dress shields, plastics or rubberized	N	X	X	1 905	N	X	X	N
3152399100	Women's, misses', juniors', and girls' waterproof outer garments, including smocks and dress shields, plastics or rubberized	3	X	X	1 905	N	X	X	N
315239W	Other women's and girls' cut and sew outerwear, nsk, total	N	X	X	239 861	N	X	X	N
315239WY	Other women's and girls' cut and sew outerwear, nsk, total	N	X	X	239 861	N	X	X	N
315239WYVV	Other women's and girls' cut and sew outerwear, nsk, for nonadministrative-record establishments	N	X	X	176 819	N	X	X	N
315239WYVY	Other women's and girls' cut and sew outerwear, nsk, for administrative-record establishments	N	X	X	63 042	N	X	X	N

See footnotes at end of table.

Table 6a. **Products Statistics: 1997 and 1992—Con.**

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. **Product Class Shipments for Selected States: 1997 and 1992**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)		
		1997	1992	
3152391	WOMEN'S, MISSES', AND JUNIORS' WASHABLE SERVICE APPAREL, INCLUDING APRONS, SMOCKS, HOOVERS, UNIFORMS FOR MAIDS, NURSES, ETC., AND HOSPITAL PATIENT WEAR @			
	United States	280 530	285 329	
	Alabama	34 672	19 018	
	California	36 661	37 774	
	Missouri	2 219	N	
	New York	12 083	30 785	
	North Carolina	3 555	N	
3152393	WOMEN'S, MISSES', AND JUNIORS' SWIMWEAR @			
	United States	799 779	587 040	
	California	357 313	306 645	
	Florida	10 922	10 597	
	New York	94 210	76 204	
	North Carolina	2 205	N	
3152395	WOMEN'S, MISSES', JUNIORS', AND GIRLS' SLACKS, INCLUDING JEANS AND JEAN-CUT CASUAL SLACKS @			
	United States	4 674 436	N	
	California	1 457 573	N	
	Florida	64 282	N	
	Georgia	128 478	N	
	Kentucky	72 268	N	
	Massachusetts	78 707	N	
	Mississippi	132 337	N	
	New Jersey	264 583	N	
	New York	593 896	N	
	North Carolina	52 341	N	
	Pennsylvania	162 655	N	
	Texas	624 556	N	
	Virginia	67 074	N	
	Washington	2 481	N	
	Wisconsin	2 396	N	
	3152397	WOMEN'S, MISSES', AND JUNIORS' SWEATERS, SHORTS, AND OTHER OUTERWEAR, AND GIRLS' SWEATERS @		
		United States	1 567 030	N
		California	433 003	N
Florida		63 694	N	
Georgia		31 818	N	
Illinois		3 771	N	
Kentucky		36 855	N	
Massachusetts		30 268	N	
Michigan		2 322	N	
New Jersey		192 918	N	
New York		228 136	N	
North Carolina		66 390	N	
Oregon		2 036	N	
Pennsylvania		102 258	N	
South Carolina		17 965	N	
Tennessee		35 899	N	
Texas		78 231	N	
Virginia		50 923	N	
Washington		42 746	N	
3152399	WOMEN'S, MISSES', JUNIORS', AND GIRLS' WATERPROOF OUTERGARMENTS, INCLUDING SMOCKS AND DRESS SHIELDS, PLASTICS OR RUBBERIZED			
	United States	1 905	N	

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315239	WOMEN'S & GIRLS' CUT & SEW OTHER OUTERWEAR MFG				
31321023	Broadwoven fabrics (piece goods)	X	1 337 314	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	360 759	X	N
31324000	Knit fabrics	X	463 061	X	N
31311003	Yarn, all fibers	X	68 287	X	N
33999301	Buttons, zippers, and slide fasteners	X	150 841	X	N
00970099	All other materials and components, parts, containers, and supplies	X	151 051	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	286 688	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315239 WOMEN'S AND GIRLS' CUT AND SEW OTHER OUTERWEAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' cut and sew apparel from purchased fabric (except underwear, lingerie, nightwear, blouses, shirts, dresses, suits, tailored coats, tailored jackets, and skirts). Women's and girls' other outerwear clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathing suits, down coats, sweaters, jogging suits, outerwear pants and shorts, and windbreakers.

The data published with NAICS code 315239 include the following SIC industries:

- 2339 Women's outerwear, n.e.c. (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

3152391 Women's and Girls' Cut and Sew Other Outerwear Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' cut and sew apparel from purchased fabric (except underwear, lingerie, nightwear, blouses, shirts, dresses, suits, tailored coats, tailored jackets, and skirts).

3152392 Women's and Girls' Cut and Sew Other Outerwear Manufacturing - Jobbers

Establishments engaged as women's and girls' other outerwear clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the *nsk* categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152391	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152393	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152395	For additional detail, see Current Industrial Report MQ315A, Apparel.
@3152397	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152397110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152397140	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt.....	22590 pt	315211WYWW pt...	2311002 pt.....	2311002 pt
3151111 pt.....	22525 pt.....	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt.....	2259000 pt	315211WYWW pt...	2321002 pt.....	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt.....	2259002 pt	315211WYWW pt...	2322002 pt.....	2322002 pt
3151111141	2251419	2251419				315211WYWW pt...	2325002 pt.....	2325002 pt
3151111191 pt.....	2251424 pt.....	2251415	3151921	22541	22541	315211WYWW pt...	2325902 pt.....	2325902
3151111191 pt.....	2251424 pt.....	2251423	3151921110	2254111	2254111	315211WYWW pt...	2326002 pt.....	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt...	2326902	2326902
3151111YVV pt.....	2252500 pt.....	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt...	2329002 pt.....	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt...	2341002 pt.....	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt...	2384002 pt.....	2384002 pt
3151113341	2251615	2251615				315211WYWW pt...	2385002 pt.....	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt.....	22590 pt	315211WYWW pt...	2395002 pt.....	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030 pt			
3151113391	2251620	2251619	3151927120	2259040	2259098 pt	3152121	23319 pt.....	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt.....	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt.....	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt.....	22590 pt	3152123 pt.....	23619 pt.....	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt.....	2335900	2335900
			315192WYWW pt...	2259000 pt.....	2259000 pt	3152123100 pt.....	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt.....	22520 pt	315192WYWW pt...	2259002 pt.....	2259002 pt	3152125	23379 pt.....	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt.....	2252000 pt	3152111	23119 pt.....	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt.....	23399 pt
315111WYWW pt.....	2252002 pt.....	2252002 pt						
			3152113	23219 pt.....	23219 pt	3152127 pt.....	23699 pt.....	23699 pt
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt.....	2339900	2339900
3151191111	2252223	2252223				3152127100 pt.....	2369900	2369900
3151191221	2252225	2252225	3152115	23229	23229			
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129	23419 pt.....	23419 pt
3151191441	2252235	2252235				3152129100 pt.....	2341901	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt.....	23259 pt	3152129100 pt.....	2341903	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900	3152129100 pt.....	2341900	2341900 pt
3151191591	2252287	2252287						
3151191YVV	2252200	2252200	3152119	23269 pt.....	23269 pt	315212B	23429	23429
			3152119100	2326900	2326900	315212B100	2342900	2342900
3151193	22525 pt.....	22525 pt	315211B	23299 pt.....	23299 pt			
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D	23849 pt.....	93000 pt
3151193121	2252501	2252501				315212D100 pt.....	2384995	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt.....	93000 pt	315212D100 pt.....	2384900 pt.....	9300000 pt
3151193241	2252521	2252521	315211D100 pt.....	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt.....	2384900 pt.....	9300000 pt	315212F	23859 pt.....	23859 pt
3151193261	2252533	2252531				315212F100 pt.....	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt.....	23859 pt	315212F100 pt.....	2385900 pt.....	2385900 pt
3151193381	2252557	2252557	315211F100 pt.....	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt.....	2385900 pt.....	2385900 pt	315212H	23959 pt.....	23958 pt
31511933B1	2252588	2252581				315212H100 pt.....	2395900 pt.....	2395800 pt
3151193YVV	2252500 pt.....	2252500 pt	315211H	23959 pt.....	23958 pt	315212H100 pt.....	2395994	2395833
			315211H100 pt.....	2395900 pt.....	2395800 pt			
3151195	22526	22526	315211H100 pt.....	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt.....	23110 pt	315212J100 pt.....	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt.....	23119 pt	315212J100 pt.....	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt.....	23210 pt	315212W pt.....	23310 pt.....	23310 pt
			315211W pt.....	23219 pt.....	23219 pt	315212W pt.....	23319 pt.....	23319 pt
315119W	22520 pt.....	22520 pt	315211W pt.....	23220 pt.....	23220 pt	315212W pt.....	23350 pt.....	23350 pt
315119WYWW	2252000 pt.....	2252000 pt	315211W pt.....	23250 pt.....	23250 pt	315212W pt.....	23359 pt.....	23359 pt
315119WYWW	2252002 pt.....	2252002 pt	315211W pt.....	23259 pt.....	23259 pt	315212W pt.....	23370 pt.....	23370 pt
			315211W pt.....	23260 pt.....	23260 pt	315212W pt.....	23379 pt.....	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt.....	23269 pt	315212W pt.....	23390 pt.....	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt.....	23290 pt	315212W pt.....	23399 pt.....	23399 pt
			315211W pt.....	23299 pt.....	23299 pt	315212W pt.....	23410 pt.....	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt.....	23410 pt	315212W pt.....	23419 pt.....	23419 pt
3151913100	2253500	2253500				315212W pt.....	23420 pt.....	23420 pt
			315211W pt.....	23840 pt.....	23840 pt	315212W pt.....	23610 pt.....	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt.....	23850 pt			
3151915100	2253600	2253600				315212W pt.....	23619 pt.....	23619 pt
			315211W pt.....	23950 pt.....	23950 pt	315212W pt.....	23690 pt.....	23690 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt.....	2311000 pt	315212W pt.....	23699 pt.....	23699 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt.....	2321000 pt	315212W pt.....	23840 pt.....	23840 pt
			315211WYWW pt...	2322000 pt.....	2322000 pt	315212W pt.....	23850 pt.....	23850 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt.....	2325000 pt	315212W pt.....	2385000 pt.....	2385000 pt
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt.....	2326000 pt	315212W pt.....	2390000 pt.....	2390000 pt
			315211WYWW pt...	2329000 pt.....	2329000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191A	2253C	2253C	315211WYWW pt...	2331000 pt.....	2331000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2332000 pt.....	2332000 pt			
			315211WYWW pt...	2335000 pt.....	2335000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191C	2253D	2253D	315211WYWW pt...	2336000 pt.....	2336000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191C110	2253D01	2253D01	315211WYWW pt...	2339000 pt.....	2339000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191C120	2253D05	2253D05	315211WYWW pt...	2341000 pt.....	2341000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191CYVV	2253D00	2253D00	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
			315211WYWW pt...	2341000 pt.....	2341000 pt			
315191E	2253E	2253E	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191EYVV	2253E02	2253E02	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
			315211WYWW pt...	2341000 pt.....	2341000 pt			
315191G	22590 pt.....	22590 pt	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
315191G100	2259020	2259020	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
			315211WYWW pt...	2341000 pt.....	2341000 pt			
315191W pt.....	22530	22530	315211WYWW pt...	2341000 pt.....	2341000 pt	315212W pt.....	2395000 pt.....	2395000 pt
			315211WYWW pt...	2341000 pt.....	2341000 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
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3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
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315221W pt.	23840 pt.	23840 pt.	3152313 pt.	23413 pt.	23413 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
3152221 pt.	23115 pt.	23115 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23422 pt.	23422 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23693 pt.	23693 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
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3152225 pt.	23117 pt.	23117 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152317YV pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319 pt.	23693 pt.	23693 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	23840 pt.	23840 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23690 pt.	23690 pt.	315239W pt.	23850 pt.	23850 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	3152910 pt.	23410 pt.	23410 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	3152910 pt.	23412 pt.	23412 pt.
3152231010 pt.	2321300 pt.	2321300 pt.	315231WYV pt.	2341002 pt.	23410			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
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3152910 pt.....	23850 pt.....	23850 pt	315299W pt.....	23890 pt.....	23890 pt	3159995111.....	2387113.....	2387113
3152910 pt.....	23851 pt.....	23851 pt	315299WYWW pt...	2329000 pt.....	2329000 pt	3159995121.....	2387115.....	2387115
3152910110.....	2341204.....	2341200 pt	315299WYWW pt...	2339000 pt.....	2339000 pt	3159995131.....	2387153.....	2387153
3152910120.....	2341304.....	2341300 pt	315299WYWW pt...	2389000 pt.....	2389000 pt	3159995141.....	2387155.....	2387155
3152910230.....	2361303.....	2361300 pt	315299WYWW pt...	2329002 pt.....	2329002 pt	3159995YVW.....	2387100.....	2387100
3152910240.....	2361403.....	2361400 pt	315299WYWW pt...	2339002 pt.....	2339002 pt	3159997.....	23872.....	23872
3152910250.....	2361502.....	2361500 pt	315299WYWW pt...	2389002 pt.....	2389002 pt	3159997111.....	2387213.....	2387213
3152910260.....	2369203.....	2369200 pt	3159911.....	23531.....	23531	3159997121.....	2387215.....	2387215
3152910270.....	2369343.....	2369340 pt	3159911111.....	2353101.....	2353101	3159997131.....	2387253.....	2387253
31529102A0.....	2369373.....	2369370 pt	3159911121.....	2353103.....	2353103	3159997141.....	2387255.....	2387255
31529102C0 pt.....	2369396.....	2369393 pt	3159911131.....	2353105.....	2353105	3159997YVW.....	2387200.....	2387200
31529102C0 pt.....	2385171.....	2385171	3159911141.....	2353109.....	2353109	315999A.....	23890 pt.....	23890 pt
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3152910YVW pt...	2361400 pt.....	2361400 pt	3159913141.....	2353209.....	2353209	315999C pt.....	23990 pt.....	23990 pt
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3152910YVW pt...	2369000 pt.....	2369000 pt	3159915.....	23533.....	23533	315999C111 pt....	2399091.....	2399098 pt
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3152910YVW pt...	2385000 pt.....	2385000 pt	3159915131.....	2353309.....	2353309	315999CVVW pt....	2399000 pt.....	2399000 pt
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3152910YVW pt...	2369002 pt.....	2369002 pt	315991WYVW.....	2353002.....	2353002	315999G100 pt....	5699010.....	5699000 pt
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3152921.....	23710 pt.....	23710 pt	3159921000.....	2381300.....	2381300	315999W pt.....	23390 pt.....	23390 pt
3152921100.....	2371000 pt.....	2371000 pt	3159923.....	23814.....	23814	315999W pt.....	23850 pt.....	23850 pt
3152925.....	23860 pt.....	23860 pt	3159923000.....	2381400.....	2381400	315999W pt.....	23870.....	23870
3152925111.....	2386015.....	2386015	3159925.....	31510 pt.....	31510 pt	315999W pt.....	23890 pt.....	23890 pt
3152925221.....	2386053.....	2386053	3159925000.....	3151000 pt.....	3151000 pt	315999W pt.....	23960 pt.....	23960 pt
3152925231.....	2386098.....	2386098	315992W pt.....	23810.....	23810	315999W pt.....	23960 pt.....	23960 pt
3152925YVW.....	2386000 pt.....	2386000 pt	315992W pt.....	31510 pt.....	31510 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23710 pt.....	23710 pt	315992W pt.....	3151000 pt.....	3151000 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	56990 pt.....	56990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2339000 pt.....	2339000 pt
315292WYVW pt...	2386000 pt.....	2386000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2385000 pt.....	2385000 pt
315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2387000.....	2387000
315292WYVW pt...	2386002.....	2386002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2389000 pt.....	2389000 pt
3152991.....	23293 pt.....	23293 pt	3159930.....	23230.....	23230	315999WYVW pt...	2396000 pt.....	2396000 pt
3152991100.....	2329330.....	2329330	3159930111.....	2323021.....	2323021	315999WYVW pt...	2399000 pt.....	2399000 pt
3152993.....	23397 pt.....	23397 pt	3159930121.....	2323027.....	2323027	315999WYVW pt...	2399000 pt.....	2399000 pt
3152993100.....	2339720.....	2339720	3159930231.....	2323028.....	2323028	315999WYVW pt...	5699000.....	5699000 pt
3152995.....	23890 pt.....	23890 pt	3159930241.....	2323049.....	2323049	315999WYVW pt...	2339002 pt.....	2339002 pt
3152995111.....	2389081.....	2389081	3159930YVW.....	2323000.....	2323000	315999WYVW pt...	2387002.....	2387002
3152995121.....	2389091.....	2389091	3159930YVW.....	2323002.....	2323002	315999WYVW pt...	2385002 pt.....	2385002 pt
3152995131.....	2389098.....	2389098	3159991.....	23397 pt.....	23397 pt	315999WYVW pt...	2387002.....	2387002
3152995YVW.....	2389000 pt.....	2389000 pt	3159991100.....	2339770.....	2339770	315999WYVW pt...	2389002 pt.....	2389002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt...	2396002 pt.....	2396002 pt
			3159993100.....	2385190.....	2385198 pt	315999WYVW pt...	2399002 pt.....	2399002 pt
						315999WYVW pt...	5699002.....	5699000 pt

Infants' Cut and Sew Apparel Manufacturing

1997

Issued November 1999

EC97M-3152N

1997 Economic Census

Manufacturing

Industry Series



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Economics and Statistics Administration
U.S. CENSUS BUREAU



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Infants' Cut and Sew Apparel Manufacturing

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Manufacturing

Industry Series



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315291	Infants' cut & sew apparel mfg .	39	53	9 457	152 721	7 879	15 425	112 899	506 891	482 937	989 986	7 612
234150	Women's & children's underwear (pt)	N	12	4 187	62 450	3 380	6 891	44 462	167 562	220 654	376 813	2 560
236150	Girls' & children's dresses & blouses (pt)	N	8	D	D	D	D	D	D	D	D	D
236990	Girls' & children's outerwear, n.e.c. (pt)	N	31	4 685	83 151	3 999	7 778	63 002	317 306	246 103	574 543	4 318
238570	Waterproof outer garments (pt)	N	2	D	D	D	D	D	D	D	D	D

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315291, INFANTS' CUT & SEW APPAREL MFG												
United States	-	53	43	9 457	152 721	7 879	15 425	112 899	506 891	482 937	989 986	7 612
California	7	8	3	267	4 822	255	568	4 267	7 104	6 779	13 933	140
Texas	-	3	3	1 120	16 958	958	2 055	13 304	43 961	41 182	81 802	836

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315291, INFANTS' CUT & SEW APPAREL MFG		315291, INFANTS' CUT & SEW APPAREL MFG—Con.	
Companies ¹	number.. 39	3152911, Infants' cut & sew apparel mfg—manufacturer—Con.	
All establishments	number.. 53	Production workers, average for year	number.. 7 476
Establishments with 1 to 19 employees	number.. 10	Production workers on March 12	number.. 7 394
Establishments with 20 to 99 employees	number.. 20	Production workers on May 12	number.. 7 613
Establishments with 100 employees or more	number.. 23	Production workers on August 12	number.. 7 506
All employees	number.. 9 457	Production workers on November 12	number.. 7 391
Total compensation ²	\$1,000.. 191 290	Production-worker hours	1,000.. 14 547
Annual payroll	\$1,000.. 152 721	Production-worker wages	\$1,000.. 102 968
Total fringe benefits	\$1,000.. 38 569	Total cost of materials	\$1,000.. 433 813
Production workers, average for year	number.. 7 879	Cost of materials, parts, containers, etc., consumed	\$1,000.. 342 943
Production workers on March 12	number.. 7 797	Cost of resales	\$1,000.. 46 483
Production workers on May 12	number.. 8 016	Cost of fuels	\$1,000.. 527
Production workers on August 12	number.. 7 909	Cost of purchased electricity	\$1,000.. 4 108
Production workers on November 12	number.. 7 794	Cost of contract work	\$1,000.. 39 752
Production-worker hours	1,000.. 15 425	Quantity of electricity purchased for heat and power	1,000 kWh.. 74 881
Production-worker wages	\$1,000.. 112 899	Quantity of electricity generated less sold for heat and power	1,000 kWh.. D
Total cost of materials	\$1,000.. 482 937	Total value of shipments	\$1,000.. 815 915
Cost of materials, parts, containers, etc., consumed	\$1,000.. 377 789	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 53 798	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 4 313	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 4 313	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 46 502	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 77 441	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. D	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 989 986	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 550 815	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 332 125	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 107 046	Coverage ratio	percent.. X
Value of resales	\$1,000.. 107 046	Value added	\$1,000.. 383 573
Contract receipts	\$1,000.. —	Total inventories, beginning of year	\$1,000.. 88 060
Other miscellaneous receipts	\$1,000.. —	Finished goods inventories, beginning of year	\$1,000.. 36 406
Primary products specialization ratio	percent.. 62	Work-in-process inventories, beginning of year	\$1,000.. 25 713
Value of primary products shipments made in all industries	\$1,000.. 794 910	Materials and supplies inventories, beginning of year	\$1,000.. 25 941
Value of primary products shipments made in this industry	\$1,000.. 550 815	Total inventories, end of year	\$1,000.. 91 714
Value of primary products shipments made in other industries	\$1,000.. 244 095	Finished goods inventories, end of year	\$1,000.. 33 146
Coverage ratio	percent.. 69	Work-in-process inventories, end of year	\$1,000.. 30 444
Value added	\$1,000.. 506 891	Materials and supplies inventories, end of year	\$1,000.. 28 124
Total inventories, beginning of year	\$1,000.. 97 838	Total inventories, end of year	\$1,000.. 99 677
Finished goods inventories, beginning of year	\$1,000.. 41 681	Finished goods inventories, end of year	\$1,000.. 37 322
Work-in-process inventories, beginning of year	\$1,000.. 29 149	Work-in-process inventories, end of year	\$1,000.. 33 350
Materials and supplies inventories, beginning of year	\$1,000.. 27 008	Materials and supplies inventories, end of year	\$1,000.. 29 005
Total inventories, end of year	\$1,000.. 99 677	Gross book value of total assets at beginning of year	\$1,000.. 98 813
Finished goods inventories, end of year	\$1,000.. 37 322	Total capital expenditures (new and used)	\$1,000.. 7 612
Work-in-process inventories, end of year	\$1,000.. 33 350	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 1 717
Materials and supplies inventories, end of year	\$1,000.. 29 005	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 5 895
Gross book value of total assets at beginning of year	\$1,000.. 98 813	Total retirements ²	\$1,000.. 5 306
Total capital expenditures (new and used)	\$1,000.. 7 612	Gross book value of total assets at end of year	\$1,000.. 101 119
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 1 717	Total depreciation during year ²	\$1,000.. 7 456
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 5 895	Total rental payments ²	\$1,000.. 2 287
Total retirements ²	\$1,000.. 5 306	Buildings and other structures rental payments ²	\$1,000.. 2 287
Gross book value of total assets at end of year	\$1,000.. 101 119	Machinery and equipment rental payments ²	\$1,000.. 2 633
Total depreciation during year ²	\$1,000.. 7 456	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 500
Total rental payments ²	\$1,000.. 2 287	Response coverage ratio ⁴	percent.. 83
Buildings and other structures rental payments ²	\$1,000.. 2 287	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 149
Machinery and equipment rental payments ²	\$1,000.. 2 633	Response coverage ratio ⁴	percent.. 83
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 500	Cost of purchased communications services ³	\$1,000.. 486
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 149	Cost of purchased legal services ³	\$1,000.. 71
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased communications services ³	\$1,000.. 486	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 212
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased legal services ³	\$1,000.. 71	Cost of purchased advertising services ³	\$1,000.. 91
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 212	Cost of purchased software and other data processing services ³	\$1,000.. 59
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased advertising services ³	\$1,000.. 91	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 516
Response coverage ratio ⁴	percent.. 83	Response coverage ratio ⁴	percent.. 83
Cost of purchased software and other data processing services ³	\$1,000.. 59	3152912, Infants' cut & sew apparel mfg—jobber	
Response coverage ratio ⁴	percent.. 83	Companies ¹	number.. N
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 516	All establishments	number.. 4
Response coverage ratio ⁴	percent.. 83	Establishments with 1 to 19 employees	number.. 1
3152911, Infants' cut & sew apparel mfg—manufacturer		Establishments with 20 to 99 employees	number.. 1
Companies ¹	number.. N	Establishments with 100 employees or more	number.. 2
All establishments	number.. 49	All employees	number.. 669
Establishments with 1 to 19 employees	number.. 9	Total compensation ²	\$1,000.. 13 670
Establishments with 20 to 99 employees	number.. 19	Annual payroll	\$1,000.. 11 949
Establishments with 100 employees or more	number.. 21	Total fringe benefits	\$1,000.. 1 721
All employees	number.. 8 788	Production workers, average for year	number.. 403
Total compensation ²	\$1,000.. 177 620	Production workers on March 12	number.. 403
Annual payroll	\$1,000.. 140 772	Production workers on May 12	number.. 403
Total fringe benefits	\$1,000.. 36 848	Production workers on August 12	number.. 403
		Production workers on November 12	number.. 403
		Production-worker hours	1,000.. 878
		Production-worker wages	\$1,000.. 9 931

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315291, INFANTS' CUT & SEW APPAREL MFG— Con.		315291, INFANTS' CUT & SEW APPAREL MFG— Con.	
3152912, Infants' cut & sew apparel mfg—jobber— Con.		3152912, Infants' cut & sew apparel mfg—jobber— Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	49 124	Finished goods inventories, end of year	\$1,000..
Cost of resales	34 846	Work-in-process inventories, end of year	\$1,000..
Cost of fuels	7 315	Materials and supplies inventories, end of year	\$1,000..
Cost of purchased electricity	8	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	205	Total capital expenditures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for buildings and other structures	
Quantity of electricity generated less sold for heat and power ...	1,000 kWh..	(new and used)	\$1,000..
Total value of shipments	\$1,000..	Capital expenditures for machinery and equipment (new	
Primary products value of shipments	174 071	and used)	\$1,000..
Secondary products value of shipments	X	Total retirements ²	\$1,000..
Total miscellaneous receipts	X	Gross book value of total assets at end of year	\$1,000..
Value of resales	X	Total depreciation during year ²	\$1,000..
Contract receipts	X	Total rental payments ²	\$1,000..
Other miscellaneous receipts	X	Buildings and other structures rental payments ²	\$1,000..
Primary products specialization ratio	percent..	Machinery and equipment rental payments ²	\$1,000..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased services for the repair of buildings and other	
Value of primary products shipments made in this industry	\$1,000..	structures ³	\$1,000..
Value of primary products shipments made in other		Response coverage ratio ⁴	percent..
industries	\$1,000..	Cost of purchased services for the repair of machinery and	
Coverage ratio	percent..	equipment ³	\$1,000..
Value added	\$1,000..	Response coverage ratio ⁴	percent..
Total inventories, beginning of year	\$1,000..	Cost of purchased communications services ³	\$1,000..
Finished goods inventories, beginning of year	9 778	Response coverage ratio ⁴	percent..
Work-in-process inventories, beginning of year	5 275	Cost of purchased legal services ³	\$1,000..
Materials and supplies inventories, beginning of year	3 436	Response coverage ratio ⁴	percent..
	1 067	Cost of purchased accounting and bookkeeping services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased software and other data processing	
		services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315291, INFANTS' CUT & SEW APPAREL MFG												
All establishments	-	53	43	9 457	152 721	7 879	15 425	112 899	506 891	482 937	989 986	7 612
Establishments with 1 to 4 employees	9	2	-	D	D	D	D	D	D	D	D	D
Establishments with 5 to 9 employees	8	4	-	27	395	21	35	286	846	700	1 545	19
Establishments with 10 to 19 employees	-	4	-	D	D	D	D	D	D	D	D	D
Establishments with 20 to 49 employees	-	12	12	372	6 007	318	605	4 577	13 796	10 709	24 045	255
Establishments with 50 to 99 employees	-	8	8	606	11 065	503	937	8 083	41 069	28 328	74 459	256
Establishments with 100 to 249 employees	1	4	4	664	9 298	620	1 124	8 429	22 603	25 174	48 247	904
Establishments with 250 to 499 employees	-	14	14	4 639	74 616	3 785	8 035	55 854	274 723	244 423	515 444	3 415
Establishments with 500 to 999 employees	-	5	5	3 096	50 283	2 592	4 622	34 895	136 672	164 520	299 649	2 753
Establishments with 1,000 to 2,499 employees	-	-	-	-	-	-	-	-	-	-	-	-
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	5	-	26	337	20	31	249	780	607	1 382	16

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315291	Infants' cut & sew apparel mfg	53	9 457	152 721	7 879	15 425	112 899	506 891	482 937	989 986	7 612

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315291	Infants' cut and sew apparel	N	X	X	794 910	N	X	X	N
3152910	Infants' apparel @	N	X	X	794 910	N	X	X	N
31529101	Infants' underwear and nightwear	N	X	X	294 202	N	X	X	N
3152910110	Infants' underwear \$	5	X	X	71 538	N	X	X	N
3152910120	Infants' nightwear, including pajamas, gowns, and robes \$	12	X	X	222 664	N	X	X	N
31529102	Infants' shirts, dresses, coats and jackets, play garments, sweaters, and other outerwear	N	X	X	497 917	N	X	X	N
3152910230	Infants' knit shirts \$	21	X	X	66 698	N	X	X	N
3152910240	Infants' woven dress and sport shirts	3	X	X	1 014	N	X	X	N
3152910250	Infants' dresses	26	X	X	63 525	N	X	X	N
3152910260	Infants' coats and jackets	8	X	X	7 604	N	X	X	N
3152910270	Infants' play garments, including playsuits, playshorts, dungarees, jeans, bibbed overalls, slacks, halter tops, creepers, and rompers	37	X	X	323 853	N	X	X	N
31529102A0	Infants' sweaters, including sweater vests \$	2	X	X	1 092	N	X	X	N
31529102C0	Infants' other outerwear, including neckwear, headwear, swimwear, leotards, and sweatpants	11	X	X	34 131	N	X	X	N
3152910Y	Infants' cut and sew apparel, nsk, total	N	X	X	2 791	N	X	X	N
3152910YWV	Infants' cut and sew apparel, nsk, for non-administrative record establishments	N	X	X	1 436	N	X	X	N
3152910YWY	Infants' cut and sew apparel, nsk, for administrative record establishments	N	X	X	1 355	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315291	INFANTS' CUT & SEW APPAREL MFG				
31321023	Broadwoven fabrics (piece goods)	X	143 706	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	2 734	X	N
31324000	Knit fabrics	X	159 760	X	N
31311003	Yarn, all fibers	X	20 229	X	N
33999301	Buttons, zippers, and slide fasteners	X	17 398	X	N
00970099	All other materials and components, parts, containers, and supplies	X	17 828	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	16 134	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315291 INFANTS' CUT AND SEW APPAREL MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing infants' dresses, blouses, shirts, and all other infants' wear from purchased fabric. Infants' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. For the purposes of classification, the term infants' apparel includes apparel for young children of an age not exceeding 24 months.

The data published with NAICS code 315291 include the following SIC industries:

- 2341 Women's and children's underwear (pt)
- 2361 Girls' and children's dresses and blouses (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

3152911 Infants' Cut and Sew Apparel Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing infants' dresses, blouses, shirts, and all other infants' wear from purchased fabric. For the purposes of classification, the term infants' apparel includes apparel for young children of an age not exceeding 24 months.

3152912 Infants' Cut and Sew Apparel Manufacturing - Jobbers

Establishments engaged as infants' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel. For the purposes of classification, the term infants' apparel includes apparel for young children of an age not exceeding 24 months.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3152910	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152910110	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152910120	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 3152910230	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
\$ 31529102A0	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
315111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2325902	2325902
3151111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt	2251400	2251400	3151921YVV	2254100	2254100	315211WYWW pt ...	2326902	2326902
3151111YVV pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113111	2251612	2251612	3151923120	2254413	2254413	315211WYWW pt ...	2331002 pt	2331002 pt
3151113221	2251614	2251614	3151923YVV	2254400	2254400	315211WYWW pt ...	2334002 pt	2334002 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	315211WYWW pt ...	2335002 pt	2335002 pt
3151113341	2251615	2251615	3151927110	2259030	2259030	315211WYWW pt ...	2335002 pt	2335002 pt
3151113351	2251617	2251617	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113391	2251620	2251619	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151113YVV	2251600	2251600	315192W pt	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115	22518	22518	315192W pt	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115121	2251814	2251814	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
3151115131	2251817	2251817	315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
3151115YVV	2251800	2251800	315192WYWW pt...	2254002	2254002	3152125	23379 pt	23379 pt
315111W pt.....	22510	22510	315192WYWW pt...	2259002 pt	2259002 pt	3152125100	2337900	2337900
315111W pt.....	22520 pt	22520 pt	3152111	23119 pt	23119 pt	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt...	2251000	2251000	3152111100	2311900	2311900	3152127 pt.....	23699 pt	23699 pt
315111WYWW pt...	2252000 pt	2252000 pt	31521113100	2321900	2321900	3152127100 pt	2339900	2339900
315111WYWW pt	2251002	2251002	31521113	23219 pt	23219 pt	3152127100 pt	2369900	2369900
315111WYWW pt	2252002 pt	2252002 pt	31521115	23229	23229	3152129	23419 pt	23419 pt
3151191	22522	22522	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191111	2252223	2252223	3152117	23259 pt	23259 pt	3152129100 pt	2341903	2341900 pt
3151191221	2252225	2252225	3152117100	2325900	2325900	3152129100 pt	2341900	2341900 pt
3151191331	2252233	2252233	3152119	23269 pt	23269 pt	315212B	23429	23429
3151191441	2252235	2252235	3152119100	2326900	2326900	315212B100	2342900	2342900
3151191551	2252243	2252243	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151191561	2252245	2252245	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151191591	2252287	2252287	315211D	23849 pt	93000 pt	315212D100 pt	2384900 pt	9300000 pt
3151191YVV	2252200	2252200	315211D100 pt	2384994	9300000 pt	315212F	23859 pt	23859 pt
3151193	22525 pt	22525 pt	315211D100 pt	2384900 pt	9300000 pt	315212F100 pt	2385920	2385900 pt
3151193111	2252516	2252515	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193121	2252501	2252501	315211F100 pt	2385910	2385900 pt	315212H	23959 pt	23958 pt
3151193131	2252503	2252503	315211F100 pt	2385900 pt	2385900 pt	315212H100 pt	2395900 pt	2395800 pt
3151193241	2252521	2252521	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
3151193251	2252527	2252527	315211H100 pt	2395900 pt	2395800 pt	315212J	23899	93000 pt
3151193261	2252533	2252531	315211H100 pt	2395993	2395811	315212J100 pt	2389993	9300000 pt
3151193371	2252551	2252551	315211W pt	23110 pt	23110 pt	315212J100 pt	2389900	9300000 pt
3151193381	2252557	2252557	315211W pt	23119 pt	23119 pt	315212W pt.....	23310 pt	23310 pt
3151193391	2252561	2252561	315211W pt	23210 pt	23210 pt	315212W pt.....	23319 pt	23319 pt
31511933B1	2252588	2252581	315211W pt	23219 pt	23219 pt	315212W pt.....	23350 pt	23350 pt
3151193YVV	2252500 pt	2252500 pt	315211W pt	23220 pt	23220 pt	315212W pt.....	23359 pt	23359 pt
3151195	22526	22526	315211W pt	23250 pt	23250 pt	315212W pt.....	23370 pt	23370 pt
3151195111	2252625	2252625	315211W pt	23259 pt	23259 pt	315212W pt.....	23379 pt	23379 pt
3151195121	2252642	2252642	315211W pt	23260 pt	23260 pt	315212W pt.....	23390 pt	23390 pt
3151195131	2252651	2252651	315211W pt	23269 pt	23269 pt	315212W pt.....	23399 pt	23399 pt
3151195YVV	2252600	2252600	315211W pt	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
315119W	22520 pt	22520 pt	315211W pt	23299 pt	23299 pt	315212W pt.....	23419 pt	23419 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt	23310 pt	23310 pt	315212W pt.....	23420 pt	23420 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt	23319 pt	23319 pt	315212W pt.....	23420 pt	23420 pt
3151911	22534	22534	315211W pt	23320 pt	23320 pt	315212W pt.....	23610 pt	23610 pt
3151911100	2253400	2253400	315211W pt	23320 pt	23320 pt	315212W pt.....	23619 pt	23619 pt
3151913	22535	22535	315211W pt	23325 pt	23325 pt	315212W pt.....	23690 pt	23690 pt
3151913100	2253500	2253500	315211W pt	23329 pt	23329 pt	315212W pt.....	23699 pt	23699 pt
3151915	22536	22536	315211W pt	23329 pt	23329 pt	315212W pt.....	23840 pt	23840 pt
3151915100	2253600	2253600	315211W pt	23340 pt	23340 pt	315212W pt.....	23850 pt	23850 pt
3151917	2253A	2253A	315211W pt	23340 pt	23340 pt	315212W pt.....	23890 pt	23890 pt
3151917100	2253A00	2253A00	315211W pt	23350 pt	23350 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211W pt	23359 pt	23359 pt	315212W pt.....	23890 pt	23890 pt
3151919100	2253B00	2253B00	315211W pt	23370 pt	23370 pt	315212W pt.....	23890 pt	23890 pt
315191A	2253C	2253C	315211W pt	23379 pt	23379 pt	315212W pt.....	23890 pt	23890 pt
315191A100	2253C00	2253C00	315211W pt	23390 pt	23390 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211W pt	23399 pt	23399 pt	315212W pt.....	23890 pt	23890 pt
315191C110	2253D01	2253D01	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191C120	2253D05	2253D05	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191C130	2253D09	2253D09	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191CYVV	2253D00	2253D00	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191E	2253E	2253E	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191E100	2253E00	2253E00	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191EYVV	2253E02	2253E02	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191G	22590 pt	22590 pt	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191G100	2259020	2259020	315211W pt	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
315191W pt.....	22530	22530	315211WYWW pt...	23950 pt	23950 pt	315212W pt.....	23890 pt	23890 pt
			315211WYWW pt...	2311000 pt	2311000 pt			
			315211WYWW pt...	2321000 pt	2321000 pt			
			315211WYWW pt...	2322000 pt	2322000 pt			
			315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
			315211WYWW pt...	2329000 pt	2329000 pt			
			315211WYWW pt...	2341000 pt	2341000 pt			
			315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
			315211WYWW pt...	2395000 pt	2395000 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.....	23950 pt.....	23950 pt.....	315223W pt.....	23610 pt.....	23610 pt.....	3152323 pt.....	23614 pt.....	23614 pt.....
315212WYWW pt...	2331000 pt.....	2331000 pt.....	315223WYWW pt...	2321000 pt.....	2321000 pt.....	3152323010.....	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2335000 pt.....	2335000 pt.....	315223WYWW pt...	2361000 pt.....	2361000 pt.....	3152323020.....	2361401.....	2361400 pt.....
315212WYWW pt...	2337000 pt.....	2337000 pt.....	315223WYWW pt...	2321002 pt.....	2321002 pt.....	3152323YV pt...	2331400 pt.....	2331400 pt.....
315212WYWW pt...	2339000 pt.....	2339000 pt.....	315223WYWW pt...	2361002 pt.....	2361002 pt.....	3152323YV pt...	2361400 pt.....	2361400 pt.....
315212WYWW pt...	2341000 pt.....	2341000 pt.....	3152241 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt...	2342000 pt.....	2342000 pt.....	3152241 pt.....	23251.....	23251.....	315232W pt.....	23310 pt.....	23310 pt.....
315212WYWW pt...	2346000 pt.....	2346000 pt.....	3152241010.....	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331000 pt.....	2331000 pt.....
315212WYWW pt...	2369000 pt.....	2369000 pt.....	3152241020.....	2369342.....	2369342.....	315232WYWW pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2384000 pt.....	2384000 pt.....	3152241YV pt...	2325100 pt.....	2325100 pt.....	315232WYWW pt...	2331002 pt.....	2331002 pt.....
315212WYWW pt...	2385000 pt.....	2385000 pt.....	3152241YV pt...	2369300 pt.....	2369300 pt.....	315232WYWW pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2389000 pt.....	2389000 pt.....	3152243.....	23252.....	23252.....	3152330 pt.....	23350 pt.....	23350 pt.....
315212WYWW pt...	2395000 pt.....	2395000 pt.....	3152243000.....	2325200.....	2325200.....	3152330 pt.....	23353.....	23353.....
315212WYWW pt...	2331002 pt.....	2331002 pt.....	315224W pt.....	23250 pt.....	23250 pt.....	3152330 pt.....	23610 pt.....	23610 pt.....
315212WYWW pt...	2331902.....	2331902.....	315224W pt.....	23690 pt.....	23690 pt.....	3152330 pt.....	23615 pt.....	23615 pt.....
315212WYWW pt...	2335002 pt.....	2335002 pt.....	315224WYWW pt...	2325000 pt.....	2325000 pt.....	3152330010.....	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2335902.....	2335902.....	315224WYWW pt...	2369000 pt.....	2369000 pt.....	3152330020.....	2361501.....	2361500 pt.....
315212WYWW pt...	2337002 pt.....	2337002 pt.....	315224WYWW pt...	2325002 pt.....	2325002 pt.....	3152330YV pt...	2335000 pt.....	2335000 pt.....
315212WYWW pt...	2337902.....	2337902.....	315224WYWW pt...	2369002 pt.....	2369002 pt.....	3152330YV pt...	2335300 pt.....	2335300 pt.....
315212WYWW pt...	2339002 pt.....	2339002 pt.....	3152251.....	23261.....	23261.....	3152330YV pt...	2361000 pt.....	2361000 pt.....
315212WYWW pt...	2339902.....	2339902.....	3152251000.....	2326100.....	2326100.....	3152330YV pt...	2361500 pt.....	2361500 pt.....
315212WYWW pt...	2341002 pt.....	2341002 pt.....	3152253.....	23262.....	23262.....	3152330YV pt...	2335002 pt.....	2335002 pt.....
315212WYWW pt...	2341902.....	2341902.....	3152253000.....	2326200.....	2326200.....	3152330YV pt...	2361002 pt.....	2361002 pt.....
315212WYWW pt...	2342002 pt.....	2342002 pt.....	315225W.....	23260 pt.....	23260 pt.....	3152341 pt.....	23371.....	23371.....
315212WYWW pt...	2361002 pt.....	2361002 pt.....	315225WYWW.....	2326000 pt.....	2326000 pt.....	3152341 pt.....	23692 pt.....	23692 pt.....
315212WYWW pt...	2361902.....	2361902.....	315225WYWW.....	2326002 pt.....	2326002 pt.....	3152341010.....	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2369002 pt.....	2369002 pt.....	315225WYWW.....	2326002 pt.....	2326002 pt.....	3152341020.....	2369201.....	2369200 pt.....
315212WYWW pt...	2369002 pt.....	2369002 pt.....	3152281.....	23291.....	23291.....	3152341YV pt...	2337100 pt.....	2337100 pt.....
315212WYWW pt...	2384002 pt.....	2384002 pt.....	3152281000.....	2329100.....	2329100.....	3152341YV pt...	2369200 pt.....	2369200 pt.....
315212WYWW pt...	2385002 pt.....	2385002 pt.....	3152283 pt.....	23293 pt.....	23293 pt.....	3152343.....	23372.....	23372.....
315212WYWW pt...	2389002 pt.....	2389002 pt.....	3152283 pt.....	23693 pt.....	23693 pt.....	3152343000.....	2337200.....	2337200.....
315212WYWW pt...	2395002 pt.....	2395002 pt.....	3152283010.....	2329310.....	2329310.....	3152345 pt.....	23374.....	23374.....
3152211 pt.....	23221.....	23221.....	3152283020.....	2369395.....	2369393 pt.....	3152345 pt.....	23693 pt.....	23693 pt.....
3152211 pt.....	23412 pt.....	23412 pt.....	3152283130.....	2329360.....	2329360.....	3152345010.....	2337410.....	2337410.....
3152211010.....	2322100 pt.....	2322100 pt.....	3152283140.....	2369372.....	2369370.....	3152345030.....	2369394.....	2369393 pt.....
3152211020.....	2341203.....	2341200 pt.....	3152283150.....	2329380.....	2329380.....	3152345120.....	2337420.....	2337420.....
3152211YV pt....	2322100 pt.....	2322100 pt.....	3152283YV pt...	2329300.....	2329300.....	3152345YV pt...	2337400.....	2337400.....
3152211YV pt....	2341200 pt.....	2341200 pt.....	3152283YV pt...	2369300 pt.....	2369300 pt.....	3152345YV pt...	2369300 pt.....	2369300 pt.....
3152213 pt.....	23222.....	23222.....	3152285.....	23851 pt.....	23851 pt.....	3152347.....	23851 pt.....	23851 pt.....
3152213 pt.....	23413 pt.....	23413 pt.....	3152285100.....	2385193.....	2385198 pt.....	3152347000.....	2385142.....	2385140 pt.....
3152213010.....	2322200 pt.....	2322200 pt.....	3152288W pt.....	23290 pt.....	23290 pt.....	315234W pt.....	23370 pt.....	23370 pt.....
3152213020.....	2341303.....	2341300 pt.....	3152288W pt.....	23690 pt.....	23690 pt.....	315234W pt.....	23690 pt.....	23690 pt.....
3152213YV pt....	2322200 pt.....	2322200 pt.....	3152288WYWW pt...	23850 pt.....	23850 pt.....	315234W pt.....	23850 pt.....	23850 pt.....
3152213YV pt....	2341300 pt.....	2341300 pt.....	3152288WYWW pt...	2329000 pt.....	2329000 pt.....	315234WYV pt...	2337000 pt.....	2337000 pt.....
3152215 pt.....	23693 pt.....	23693 pt.....	3152288WYWW pt...	2369000 pt.....	2369000 pt.....	315234WYV pt...	2369000 pt.....	2369000 pt.....
3152215 pt.....	23840 pt.....	23840 pt.....	3152288WYWW pt...	2385000 pt.....	2385000 pt.....	315234WYV pt...	2385000 pt.....	2385000 pt.....
3152215000 pt...	2369382.....	2369380 pt.....	3152288WYWW pt...	2329002 pt.....	2329002 pt.....	315234WYV pt...	2337002 pt.....	2337002 pt.....
3152215000 pt...	2384011.....	2384011.....	3152288WYWW pt...	2369002 pt.....	2369002 pt.....	315234WYV pt...	2369002 pt.....	2369002 pt.....
315221W pt.....	23220 pt.....	23220 pt.....	3152288WYWW pt...	2385002 pt.....	2385002 pt.....	315234WYV pt...	2385002 pt.....	2385002 pt.....
315221W pt.....	23410 pt.....	23410 pt.....	3152311.....	23412 pt.....	23412 pt.....	3152391.....	23392.....	23392.....
315221W pt.....	23690 pt.....	23690 pt.....	3152311010.....	2341201.....	2341200 pt.....	3152391000.....	2339200.....	2339200.....
315221W pt.....	23840 pt.....	23840 pt.....	3152311020.....	2341202.....	2341200 pt.....	3152393.....	23394.....	23394.....
315221WYWW pt...	2322000 pt.....	2322000 pt.....	3152311YV pt...	2341200 pt.....	2341200 pt.....	3152393000.....	2339400.....	2339400.....
315221WYWW pt...	2341000 pt.....	2341000 pt.....	3152313.....	23413 pt.....	23413 pt.....	3152395 pt.....	23395.....	23395.....
315221WYWW pt...	2369000 pt.....	2369000 pt.....	3152313010.....	2341301.....	2341300 pt.....	3152395 pt.....	23693 pt.....	23693 pt.....
315221WYWW pt...	2384000 pt.....	2384000 pt.....	3152313020.....	2341302.....	2341300 pt.....	3152395010.....	2339500 pt.....	2339500 pt.....
315221WYWW pt...	2384000 pt.....	2384000 pt.....	3152313YV pt...	2341300 pt.....	2341300 pt.....	3152395020.....	2369341.....	2369340 pt.....
315221WYWW pt...	2322002 pt.....	2322002 pt.....	3152315.....	23421.....	23421.....	3152395YV pt...	2339500 pt.....	2339500 pt.....
315221WYWW pt...	2341002 pt.....	2341002 pt.....	3152315000.....	2342100.....	2342100.....	3152395YV pt...	2369300 pt.....	2369300 pt.....
315221WYWW pt...	2369002 pt.....	2369002 pt.....	3152317 pt.....	23422.....	23422.....	3152397 pt.....	23397 pt.....	23397 pt.....
315221WYWW pt...	2384002 pt.....	2384002 pt.....	3152317 pt.....	23890 pt.....	23890 pt.....	3152397 pt.....	23693 pt.....	23693 pt.....
3152221 pt.....	23115.....	23115.....	3152317110.....	2342210.....	2342210.....	3152397020.....	2339760.....	2339760.....
3152221 pt.....	23692 pt.....	23692 pt.....	3152317121.....	2342281.....	2342281.....	3152397110.....	2339730.....	2339730.....
3152221010.....	2311500.....	2311500.....	3152317131.....	2389035.....	2389031 pt.....	3152397130.....	2339780.....	2339780.....
3152221020.....	2369202.....	2369200 pt.....	3152317151.....	2389071.....	2389071.....	3152397140.....	2369371.....	2369370 pt.....
3152221YV.....	2369200 pt.....	2369200 pt.....	3152317YV pt...	2342200.....	2342200.....	3152397YV pt...	2339700.....	2339700.....
3152223.....	23116.....	23116.....	3152319 pt.....	23693 pt.....	23693 pt.....	3152399.....	23851 pt.....	23851 pt.....
3152223000.....	2311600.....	2311600.....	3152319000.....	23840 pt.....	23840 pt.....	3152399100.....	2385194.....	2385198 pt.....
3152225.....	23117.....	23117.....	3152319000.....	2384021.....	2384021.....	315239W pt.....	23390 pt.....	23390 pt.....
3152225000.....	2311700.....	2311700.....	315231W pt.....	23410 pt.....	23410 pt.....	315239W pt.....	23690 pt.....	23690 pt.....
3152227.....	23851 pt.....	23851 pt.....	315231W pt.....	23420 pt.....	23420 pt.....	315239W pt.....	23850 pt.....	23850 pt.....
3152227000.....	2385100 pt.....	2385100 pt.....	315231W pt.....	23690 pt.....	23690 pt.....	315239WYV pt...	2339000 pt.....	2339000 pt.....
3152227000.....	2385141.....	2385140 pt.....	315231W pt.....	23840 pt.....	23840 pt.....	315239WYV pt...	2369000 pt.....	2369000 pt.....
315222W pt.....	23110 pt.....	23110 pt.....	315231W pt.....	23840 pt.....	23840 pt.....	315239WYV pt...	2385000 pt.....	2385000 pt.....
315222W pt.....	23690 pt.....	23690 pt.....	315231W pt.....	23890 pt.....	23890 pt.....	315239WYV pt...	2339002 pt.....	2339002 pt.....
315222W pt.....	23850 pt.....	23850 pt.....	315231WYV pt...	2389000 pt.....	2389000 pt.....	315239WYV pt...	2369002 pt.....	2369002 pt.....
315222WYWW pt...	2311000 pt.....	2311000 pt.....	315231WYV pt...	2384000 pt.....	2384000 pt.....	315239WYV pt...	2385002 pt.....	2385002 pt.....
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Fur and Leather Apparel Manufacturing

1997

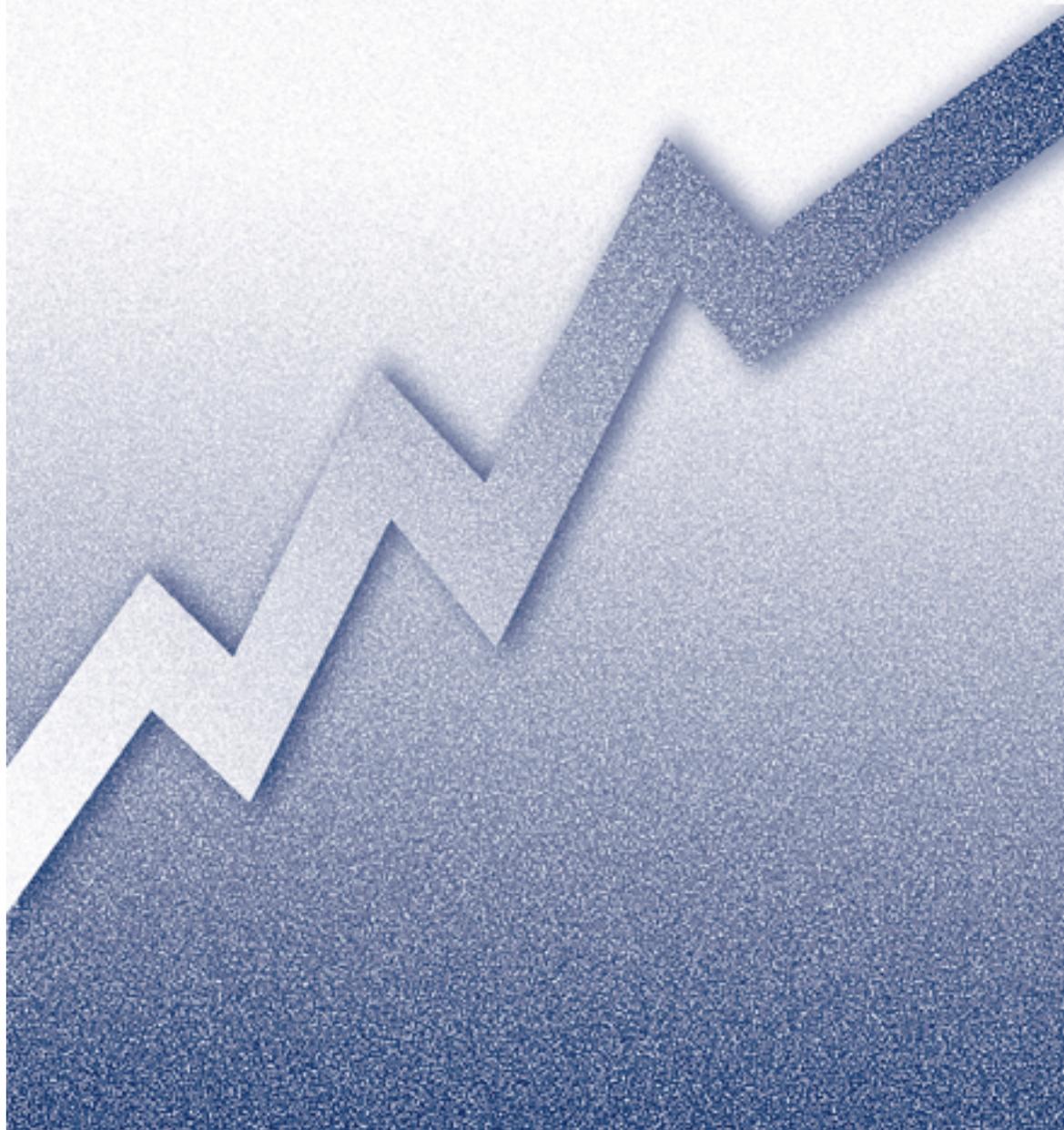
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1997 Economic Census

Manufacturing

Industry Series



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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315292	Fur & leather apparel mfg	225	225	2 136	46 487	1 613	2 992	27 592	116 604	133 274	248 980	3 511
237100	Fur goods	N	120	575	13 907	339	512	6 333	38 160	82 690	119 655	1 403
238600	Leather & sheep-lined clothing	N	105	1 561	32 580	1 274	2 480	21 259	78 444	50 584	129 325	2 108

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
315292, FUR & LEATHER APPAREL MFG												
United States	5	225	26	2 136	46 487	1 613	2 992	27 592	116 604	133 274	248 980	3 511
California	5	32	5	447	10 332	377	714	7 175	26 268	16 288	42 346	1 034
New Jersey	2	5	2	268	7 235	226	455	3 644	11 888	11 495	23 166	77
New York	6	130	8	692	17 592	460	836	9 277	47 600	77 192	123 710	1 606
Texas	1	6	2	205	2 825	171	325	2 296	5 445	5 420	10 991	54

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315292, FUR & LEATHER APPAREL MFG		315292, FUR & LEATHER APPAREL MFG—Con.	
Companies ¹ number..	225	Value added \$1,000..	116 604
All establishments number..	225	Total inventories, beginning of year \$1,000..	38 053
Establishments with 1 to 19 employees number..	199	Finished goods inventories, beginning of year \$1,000..	19 642
Establishments with 20 to 99 employees number..	24	Work-in-process inventories, beginning of year \$1,000..	7 905
Establishments with 100 employees or more number..	2	Materials and supplies inventories, beginning of year \$1,000..	10 506
All employees number..	2 136	Total inventories, end of year \$1,000..	37 455
Total compensation ² \$1,000..	52 535	Finished goods inventories, end of year \$1,000..	20 540
Annual payroll \$1,000..	46 487	Work-in-process inventories, end of year \$1,000..	7 905
Total fringe benefits \$1,000..	6 048	Materials and supplies inventories, end of year \$1,000..	9 010
Production workers, average for year number..	1 613	Gross book value of total assets at beginning of year \$1,000..	9 502
Production workers on March 12 number..	1 578	Total capital expenditures (new and used) \$1,000..	3 511
Production workers on May 12 number..	1 627	Capital expenditures for buildings and other structures (new and used) \$1,000..	326
Production workers on August 12 number..	1 658	Capital expenditures for machinery and equipment (new and used) \$1,000..	3 185
Production workers on November 12 number..	1 589	Total retirements ² \$1,000..	589
Production-worker hours 1,000..	2 992	Gross book value of total assets at end of year \$1,000..	12 424
Production-worker wages \$1,000..	27 592	Total depreciation during year ² \$1,000..	1 465
Total cost of materials \$1,000..	133 274	Total rental payments ² \$1,000..	7 487
Cost of materials, parts, containers, etc., consumed \$1,000..	112 303	Buildings and other structures rental payments ² \$1,000..	3 344
Cost of resales \$1,000..	2 613	Machinery and equipment rental payments ² \$1,000..	4 143
Cost of fuels \$1,000..	179	Cost of purchased services for the repair of buildings and other structures ³ \$1,000..	\$
Cost of purchased electricity \$1,000..	1 376	Response coverage ratio ⁴ percent..	\$
Cost of contract work \$1,000..	16 803	Cost of purchased services for the repair of machinery and equipment ³ \$1,000..	\$
Quantity of electricity purchased for heat and power 1,000 kWh..	14 961	Response coverage ratio ⁴ percent..	\$
Quantity of electricity generated less sold for heat and power 1,000 kWh..	—	Cost of purchased communications services ³ \$1,000..	\$
Total value of shipments \$1,000..	248 980	Response coverage ratio ⁴ percent..	\$
Primary products value of shipments \$1,000..	D	Cost of purchased legal services ³ \$1,000..	\$
Secondary products value of shipments \$1,000..	D	Response coverage ratio ⁴ percent..	\$
Total miscellaneous receipts \$1,000..	8 280	Cost of purchased accounting and bookkeeping services ³ \$1,000..	\$
Value of resales \$1,000..	3 835	Response coverage ratio ⁴ percent..	\$
Contract receipts \$1,000..	4 203	Cost of purchased advertising services ³ \$1,000..	\$
Other miscellaneous receipts \$1,000..	242	Response coverage ratio ⁴ percent..	\$
Primary products specialization ratio percent..	D	Cost of purchased software and other data processing services ³ \$1,000..	\$
Value of primary products shipments made in all industries \$1,000..	234 512	Response coverage ratio ⁴ percent..	\$
Value of primary products shipments made in this industry \$1,000..	D	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000..	\$
Value of primary products shipments made in other industries \$1,000..	D	Response coverage ratio ⁴ percent..	\$
Coverage ratio percent..	D	Response coverage ratio ⁴ percent..	\$

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315292, FUR & LEATHER APPAREL MFG												
All establishments	5	225	26	2 136	46 487	1 613	2 992	27 592	116 604	133 274	248 980	3 511
Establishments with 1 to 4 employees	8	136	—	281	6 134	213	382	3 775	18 848	30 269	48 478	681
Establishments with 5 to 9 employees	5	38	—	243	4 486	179	302	2 836	13 712	16 668	30 938	520
Establishments with 10 to 19 employees	3	25	—	312	6 739	211	355	3 520	17 162	22 963	39 556	474
Establishments with 20 to 49 employees	7	20	20	602	12 573	423	812	7 285	33 372	38 621	71 961	1 166
Establishments with 50 to 99 employees	3	4	4	D	D	D	D	D	D	D	D	D
Establishments with 100 to 249 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 250 to 499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 500 to 999 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	118	—	294	5 571	217	371	3 397	17 585	25 450	42 618	724

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315292	Fur & leather apparel mfg .	225	2 136	46 487	1 613	2 992	27 592	116 604	133 274	248 980	3 511
3152921	Fur coats, capes, jackets, neck pieces, fur linings, and other fur garments, accessories, and trimmings	58	460	11 788	254	401	5 136	32 043	69 015	100 083	1 143
3152925	Leather and sheep-lined clothing	57	1 352	29 411	1 094	2 156	18 805	69 277	47 490	116 930	1 797

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315292	Fur and leather apparel	N	X	X	234 512	N	X	X	N
3152921	Fur coats, capes, jackets, neck pieces, fur linings, and other fur garments, accessories, and trimmings	N	X	X	98 652	N	X	X	N
31529211	Fur coats, capes, jackets, neck pieces, fur linings, and other fur garments, accessories, and trimmings	N	X	X	98 652	N	X	X	N
3152921100	Fur coats, capes, jackets, neck pieces, fur linings, and other fur garments, accessories, and trimmings	57	X	X	98 652	N	X	X	N
3152925	Leather and sheep-lined clothing	N	X	X	107 517	N	X	X	N
31529251	Men's and junior boys' leather coats and jackets	N	X	X	47 591	N	X	X	N
3152925111	Men's and junior boys' leather coats and jackets1,000 units..	24	X	S	47 591	27	X	88.5	98 296
31529252	Leather and sheep-lined clothing, except men's and junior boys' leather coats and jackets	N	X	X	53 995	N	X	X	N
3152925221	Women's, misses', and juniors' leather coats and jackets1,000 units..	21	X	¶116.3	32 990	29	X	71.3	60 640
3152925231	All other leather clothing and sheep-lined clothing, including girls' and little boys'1,000 units..	14	X	S	21 005	18	X	¶43.6	27 922
3152925Y	Leather and sheep-lined clothing, nsk	N	X	X	5 931	N	X	X	N
3152925YWV	Leather and sheep-lined clothing, nsk	N	X	X	5 931	N	X	X	N
315292W	Fur and leather apparel, nsk, total	N	X	X	28 343	N	X	X	N
315292WY	Fur and leather apparel, nsk, total	N	X	X	28 343	N	X	X	N
315292WYWW	Fur and leather apparel, nsk, for nonadministrative-record establishments	N	X	X	-	N	X	X	N
315292WYWY	Fur and leather apparel, nsk, for administrative-record establishments	N	X	X	28 343	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ¶ 10 to 19 percent estimated; ¶ 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152921	FUR COATS, CAPES, JACKETS, NECK PIECES, FUR LININGS, AND OTHER FUR GARMENTS, ACCESSORIES, AND TRIMMINGS		
	United States	98 652	N
	New York	74 681	N
3152925	LEATHER AND SHEEP-LINED CLOTHING		
	United States	107 517	N
	California	36 847	N
	New York	27 519	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315292	FUR & LEATHER APPAREL MFG				
31321023	Broadwoven fabrics (piece goods)	X	3 282	N	N
31322103	Narrow fabrics (12 inches or less in width)	X	566	N	N
31324000	Knit fabrics	X	D	N	N
31311003	Yarn, all fibers	X	D	N	N
31611001	Finished leather	X	28 274	N	N
33999301	Buttons, zippers, and slide fasteners	X	2 583	N	N
00970099	All other materials and components, parts, containers, and supplies	X	11 244	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	65 102	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315292 FUR AND LEATHER APPAREL MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew fur and leather apparel, and sheep-lined clothing. Fur and leather apparel jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials,

designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315292 include the following SIC industries:

2371 Fur goods

2386 Leather and sheep-lined clothing

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2321902	2321902
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt ...	2253000	2253000	315211WYWW pt ...	2322002 pt	2322002 pt
315111111	2251417	2251417	315191WYWW pt ...	2259000 pt	2259000 pt	315211WYWW pt ...	2325002 pt	2325002 pt
315111121	2252513	2252513	315191WYWW pt ...	2253002	2253002	315211WYWW pt ...	2325902	2325902
315111131	2251413	2251413	315191WYWW pt ...	2259002 pt	2259002 pt	315211WYWW pt ...	2326002 pt	2326002 pt
315111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2326902	2326902
315111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2329002 pt	2329002 pt
315111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2329902	2329902
3151111YWW pt	2251400	2251400	3151921YVV	2254100	2254100	315211WYWW pt ...	2341002 pt	2341002 pt
3151111YVV pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2384002 pt	2384002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2385002 pt	2385002 pt
3151113111	2251612	2251612	3151923120	2254413	2254413	3152121	2395002 pt	2395002 pt
3151113221	2251614	2251614	3151923YVV	2254400	2254400	3152121	23319 pt	23319 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	3152121100	2331900	2331900
3151113341	2251615	2251615	315192710	2259030	2259030	3152123 pt.....	23359 pt	23359 pt
3151113351	2251617	2251617	3151927120	2259040	2259040	3152123 pt.....	23619 pt	23619 pt
3151113391	2251620	2251619	3151927YVV	2259000 pt	2259098 pt	3152123100 pt	2335900	2335900
3151113YVV	2251600	2251600	315192W pt.....	22540	22540	3152123100 pt	2361900	2361900
3151115	22518	22518	315192W pt.....	22540	22540	3152125	23379 pt	23379 pt
3151115121	2251814	2251814	315192W pt.....	22590 pt	22590 pt	3152125100	2337900	2337900
3151115131	2251817	2251817	315192WYWW pt	2254000	2254000	3152127 pt.....	23399 pt	23399 pt
3151115YVV	2251800	2251800	315192WYWW pt	2259000 pt	2259000 pt	3152127 pt.....	23699 pt	23699 pt
315111W pt.....	22510	22510	315192WYWW pt	2254002	2254002	3152127 pt.....	23699 pt	23699 pt
315111W pt.....	22520 pt	22520 pt	315192WYWW pt	2259002 pt	2259002 pt	3152127100 pt	23699 pt	23699 pt
315111WYWW pt	2251000	2251000	3152111	23119 pt	23119 pt	3152127100 pt	2339900	2339900
315111WYWW pt	2252000 pt	2252000 pt	3152111100	2311900	2311900	3152129	2369900	2369900
315111WYWW pt	2251002	2251002	31521113	23219 pt	23219 pt	3152129	23419 pt	23419 pt
315111WYWW pt	2252002 pt	2252002 pt	3152113100	2321900	2321900	3152129100 pt	2341900 pt	2341900 pt
3151191	22522	22522	3152115 pt.....	23229	23229	3152129100 pt	2341900 pt	2341900 pt
3151191111	2252223	2252223	3152115 pt.....	23229	23229	315212B	23429	23429
3151191221	2252225	2252225	3152115 pt.....	23229	23229	315212B100	2342900	2342900
3151191331	2252233	2252233	3152115100 pt	23419 pt	23419 pt	315212D	23849 pt	93000 pt
3151191441	2252235	2252235	3152115100 pt	2341900 pt	2341900 pt	315212D100 pt	238495	9300000 pt
3151191551	2252243	2252243	3152115100 pt	2341900 pt	2341900 pt	315212D100 pt	2384900 pt	9300000 pt
3151191561	2252245	2252245	3152117	23259 pt	23259 pt	315212F	23859 pt	23859 pt
3151191591	2252287	2252287	3152117100	2325900	2325900	315212F100 pt	2385920	2385900 pt
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212F100 pt	2385900 pt	2385900 pt
3151193	22525 pt	22525 pt	3152119100	2326900	2326900	315212H	23959 pt	23958 pt
3151193111	2252516	2252515	315211B	23299 pt	23299 pt	315212H100 pt	2395900 pt	2395800 pt
3151193121	2252501	2252501	315211B100	2329900	2329900	315212H100 pt	2395994	2395833
3151193131	2252503	2252503	315211D	23849 pt	93000 pt	315212J	23899	93000 pt
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt	315212J100 pt	2389993	9300000 pt
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212J100 pt	2389900	9300000 pt
3151193261	2252533	2252531	315211F	23859 pt	23859 pt	315212W pt.....	23310 pt	23310 pt
3151193371	2252551	2252551	315211F100 pt	2385910	2385900 pt	315212W pt.....	23319 pt	23319 pt
3151193381	2252557	2252557	315211F100 pt	2385900 pt	2385900 pt	315212W pt.....	23350 pt	23350 pt
3151193391	2252561	2252561	315211H	23959 pt	23958 pt	315212W pt.....	23359 pt	23359 pt
31511933B1	2252588	2252581	315211H100 pt	2395900 pt	2395800 pt	315212W pt.....	23370 pt	23370 pt
3151193YVV	2252500 pt	2252500 pt	315211H100 pt	2395993	2395811	315212W pt.....	23379 pt	23379 pt
3151195	22526	22526	315211W pt.....	23110 pt	23110 pt	315212W pt.....	23390 pt	23390 pt
3151195111	2252625	2252625	315211W pt.....	23119 pt	23119 pt	315212W pt.....	23399 pt	23399 pt
3151195121	2252642	2252642	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23410 pt	23410 pt
3151195131	2252651	2252651	315211W pt.....	23219 pt	23219 pt	315212W pt.....	23419 pt	23419 pt
3151195YVV	2252600	2252600	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23420 pt	23420 pt
315119W	22520 pt	22520 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23420 pt	23420 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23610 pt	23610 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23260 pt	23260 pt	315212W pt.....	23619 pt	23619 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23690 pt	23690 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23699 pt	23699 pt
3151913	22535	22535	315211W pt.....	23299 pt	23299 pt	315212W pt.....	23840 pt	23840 pt
3151913100	2253500	2253500	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23850 pt	23850 pt
3151915	22536	22536	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23890 pt	23890 pt
3151915100	2253600	2253600	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23950 pt	23950 pt
3151917	2253A	2253A	315211W pt.....	23850 pt	23850 pt	315212WYWW pt	2331000 pt	2331000 pt
3151917100	2253A00	2253A00	315211W pt.....	23850 pt	23850 pt	315212WYWW pt	2335000 pt	2335000 pt
3151919	2253B	2253B	315211W pt.....	23950 pt	23950 pt	315212WYWW pt	2337000 pt	2337000 pt
3151919100	2253B00	2253B00	315211W pt.....	2310000 pt	2310000 pt	315212WYWW pt	2339000 pt	2339000 pt
315191A	2253C	2253C	315211WYWW pt	2320000 pt	2320000 pt	315212WYWW pt	2341000 pt	2341000 pt
315191A100	2253C00	2253C00	315211WYWW pt	2325000 pt	2325000 pt	315212WYWW pt	2342000 pt	2342000 pt
315191C	2253D	2253D	315211WYWW pt	2326000 pt	2326000 pt	315212WYWW pt	2361000 pt	2361000 pt
315191C110	2253D01	2253D01	315211WYWW pt	2329000 pt	2329000 pt	315212WYWW pt	2369000 pt	2369000 pt
315191C120	2253D05	2253D05	315211WYWW pt	2341000 pt	2341000 pt	315212WYWW pt	2384000 pt	2384000 pt
315191C130	2253D09	2253D09	315211WYWW pt	2341000 pt	2341000 pt	315212WYWW pt	2385000 pt	2385000 pt
315191CYVV	2253D00	2253D00	315211WYWW pt	2385000 pt	2385000 pt	315212WYWW pt	2395000 pt	2395000 pt
315191E	2253E	2253E	315211WYWW pt	2311902 pt	2311902 pt	315212WYWW pt	2331002 pt	2331002 pt
315191E100	2253E00	2253E00	315211WYWW pt	2311902 pt	2311902 pt	315212WYWW pt	2331902	2331902
315191EYVV	2253E02	2253E02	315211WYWW pt	2321002 pt	2321002 pt	315212WYWW pt	2331902	2331902
315191G	22590 pt	22590 pt	315211WYWW pt	2321002 pt	2321002 pt	315212WYWW pt	2331902	2331902
315191G100	2259020	2259020	315211WYWW pt	2321002 pt	2321002 pt	315212WYWW pt	2331902	2331902
315191W pt.....	22530	22530	315211WYWW pt	2321002 pt	2321002 pt	315212WYWW pt	2331902	2331902

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212WYWW pt ...	2335002 pt	2335002 pt	315224W pt	23250 pt	23250 pt	3152330 pt	23353	23353
315212WYWW pt ...	2335902 pt	2335902 pt	315224W pt	23690 pt	23690 pt	3152330 pt	23610 pt	23610 pt
315212WYWW pt ...	2337002 pt	2337002 pt	315224WYWW pt ...	2325000 pt	2325000 pt	3152330 pt	23615 pt	23615 pt
315212WYWW pt ...	2337902 pt	2337902 pt	315224WYWW pt ...	2369000 pt	2369000 pt	3152330010	2335300 pt	2335300 pt
315212WYWW pt ...	2339002 pt	2339002 pt	315224WYWW pt ...	2325002 pt	2325002 pt	3152330020	2361501	2361500 pt
315212WYWW pt ...	2339902 pt	2339902 pt	315224WYWW pt ...	2369002 pt	2369002 pt	3152330YWW pt ...	2335000 pt	2335000 pt
315212WYWW pt ...	2341002 pt	2341002 pt	3152251	23261	23261	3152330YWW pt ...	2335300 pt	2335300 pt
315212WYWW pt ...	2341902 pt	2341902 pt	3152251000	2326100	2326100	3152330YWW pt ...	2361000 pt	2361000 pt
315212WYWW pt ...	2342002 pt	2342002 pt	3152253	23262	23262	3152330YWW pt ...	2361500 pt	2361500 pt
315212WYWW pt ...	2361002 pt	2361002 pt	3152253000	2326200	2326200	3152330YWW pt ...	2335002 pt	2335002 pt
315212WYWW pt ...	2361902	2361902	3152255	23260	23260	3152330YWW pt ...	2361002 pt	2361002 pt
315212WYWW pt ...	2369002 pt	2369002 pt	3152255W	23260 pt	23260 pt	3152341 pt	23371	23371
315212WYWW pt ...	2369902	2369902	3152255YWW	2326000 pt	2326000 pt	3152341010	2337100 pt	2337100 pt
315212WYWW pt ...	2384002 pt	2384002 pt	3152255YWW	2326002 pt	2326002 pt	3152341020	2369201	2369200 pt
315212WYWW pt ...	2385002 pt	2385002 pt	3152281	23291	23291	3152341YWW pt ...	2337100 pt	2337100 pt
315212WYWW pt ...	2389002 pt	2389002 pt	3152281000	2329100	2329100	3152341YWW pt ...	2369200 pt	2369200 pt
315212WYWW pt ...	2395002 pt	2395002 pt	3152283 pt	23293 pt	23293 pt	3152343	23372	23372
3152211 pt	23221	23221	3152283010	23693 pt	23693 pt	3152343000	2337200	2337200
3152211 pt	23412 pt	23412 pt	3152283010	2329310	2329310	3152345 pt	23374	23374
3152211010	2322100 pt	2322100 pt	3152283020	2369395	2369395	3152345 pt	23693 pt	23693 pt
3152211020	2341203	2341203	3152283130	2329360	2329360	3152345010	2337410	2337410
3152211YVW pt ...	2322100 pt	2322100 pt	3152283140	2369372	2369372	3152345030	2369394	2369393 pt
3152211YVW pt ...	2341200 pt	2341200 pt	3152283150	2329380	2329380	3152345120	2337420	2337420
3152213 pt	23222	23222	3152283YVW pt ...	2329300	2329300	3152345YVW pt ...	2337400	2337400
3152213 pt	23413 pt	23413 pt	3152283YVW pt ...	2369300 pt	2369300 pt	3152345YVW pt ...	2369300 pt	2369300 pt
3152213010	2322200 pt	2322200 pt	3152285	23851 pt	23851 pt	3152347	23851 pt	23851 pt
3152213020	2341303	2341303	3152285100	2385193	2385193	3152347000	2385142	2385140 pt
3152213YVW pt ...	2322200 pt	2322200 pt	3152288W pt	23290 pt	23290 pt	315234W pt	23370 pt	23370 pt
3152213YVW pt ...	2341300 pt	2341300 pt	3152288W pt	23690 pt	23690 pt	315234W pt	23690 pt	23690 pt
3152215 pt	23693 pt	23693 pt	3152288W pt	23850 pt	23850 pt	315234W pt	23850 pt	23850 pt
3152215 pt	23840 pt	23840 pt	3152288YWW pt ...	2329000 pt	2329000 pt	315234WYVW pt ...	2337000 pt	2337000 pt
3152215000 pt ...	2369382	2369382	3152288YWW pt ...	2369000 pt	2369000 pt	315234WYVW pt ...	2369000 pt	2369000 pt
3152215000 pt ...	2384011	2384011	3152288YWW pt ...	2385000 pt	2385000 pt	315234WYVW pt ...	2385000 pt	2385000 pt
315221W pt	23220 pt	23220 pt	3152288YVW pt ...	2329002 pt	2329002 pt	315234WYVW pt ...	2337002 pt	2337002 pt
315221W pt	23410 pt	23410 pt	3152288YVW pt ...	2385002 pt	2385002 pt	315234WYVW pt ...	2369002 pt	2369002 pt
315221W pt	23690 pt	23690 pt	3152311	23412 pt	23412 pt	315234WYVW pt ...	2385002 pt	2385002 pt
315221WYVW pt ...	23840 pt	23840 pt	3152311010	2341201	2341201	3152391	23392	23392
315221WYVW pt ...	2322000 pt	2322000 pt	3152311020	2341202	2341202	3152391000	2339200	2339200
315221WYVW pt ...	2341000 pt	2341000 pt	3152311020	2341202	2341202	3152393	23394	23394
315221WYVW pt ...	2369000 pt	2369000 pt	3152311YVW	2341200 pt	2341200 pt	3152393000	2339400	2339400
315221WYVW pt ...	2384000 pt	2384000 pt	3152313	23413 pt	23413 pt	3152395 pt	23395	23395
315221WYVW pt ...	2322002 pt	2322002 pt	3152313010	2341301	2341301	3152395 pt	23693 pt	23693 pt
315221WYVW pt ...	2341002 pt	2341002 pt	3152313020	2341302	2341302	3152395010	2339500 pt	2339500 pt
315221WYVW pt ...	2369002 pt	2369002 pt	3152313YVW	2341300 pt	2341300 pt	3152395020	2369341	2369340 pt
315221WYVW pt ...	2384002 pt	2384002 pt	3152315	23421	23421	3152395YVW pt ...	2339500 pt	2339500 pt
3152221 pt	23115	23115	3152315000	2342100	2342100	3152395YVW pt ...	2369300 pt	2369300 pt
3152221 pt	23692 pt	23692 pt	3152317 pt	23422	23422	3152397 pt	23397 pt	23397 pt
3152221010	2311500	2311500	3152317010	2342210	2342210	3152397 pt	23693 pt	23693 pt
3152221020	2369202	2369202	3152317121	2342281	2342281	3152397020	2339760	2339760
3152221YVW	2369200 pt	2369200 pt	3152317131	2389035	2389035	3152397110	2339730	2339730
3152223	2316200	2316200	3152317151	2389071	2389071	3152397130	2339780	2339780
3152223	2361200	2361200	3152317YVW pt ...	2342200	2342200	3152397140	2369371	2369370 pt
3152223000	2311600	2311600	3152317YVW pt ...	2389000 pt	2389000 pt	3152397YVW pt ...	2339700	2339700
3152225	23117	23117	3152319	23693 pt	23693 pt	3152397YVW pt ...	2369300 pt	2369300 pt
3152225000	2311700	2311700	3152319000 pt ...	23840 pt	23840 pt	3152399	23851 pt	23851 pt
3152227	23851 pt	23851 pt	3152319000 pt ...	2369381	2369381	3152399100	2385194	2385198 pt
3152227000 pt ...	2385100 pt	2385100 pt	3152319000 pt ...	2384021	2384021	315239W pt	23390 pt	23390 pt
3152227000 pt ...	2385141	2385141	315231W pt	23410 pt	23410 pt	315239W pt	23690 pt	23690 pt
315222W pt	23110 pt	23110 pt	315231W pt	23420 pt	23420 pt	315239W pt	23850 pt	23850 pt
315222W pt	23690 pt	23690 pt	315231W pt	23690 pt	23690 pt	315239WYVW pt ...	2339000 pt	2339000 pt
315222W pt	23850 pt	23850 pt	315231W pt	23840 pt	23840 pt	315239WYVW pt ...	2369000 pt	2369000 pt
315222WYVW pt ...	2311000 pt	2311000 pt	315231W pt	23890 pt	23890 pt	315239WYVW pt ...	2385000 pt	2385000 pt
315222WYVW pt ...	2369000 pt	2369000 pt	315231WYVW pt ...	2341000 pt	2341000 pt	315239WYVW pt ...	2339002 pt	2339002 pt
315222WYVW pt ...	2385000 pt	2385000 pt	315231WYVW pt ...	2342000 pt	2342000 pt	315239WYVW pt ...	2369002 pt	2369002 pt
315222WYVW pt ...	2311002 pt	2311002 pt	315231WYVW pt ...	2369000 pt	2369000 pt	315239WYVW pt ...	2385002 pt	2385002 pt
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315299WYVW pt ...	2389002 pt	2389002 pt						

All Other Cut and Sew Apparel Manufacturing

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315299	All other cut & sew apparel mfg	401	410	13 594	265 290	10 391	18 441	150 820	569 064	451 361	986 548	16 989
232930	Men's & boys' clothing, n.e.c. (pt)	N	60	4 300	76 806	3 464	6 553	50 420	177 744	122 316	278 674	4 695
233930	Women's outerwear, n.e.c. (pt)	N	25	1 944	59 539	994	1 678	13 605	70 001	73 841	138 383	5 342
238910	Apparel & accessories, n.e.c. (pt)	N	250	3 147	52 751	2 514	3 976	34 700	89 813	70 777	162 023	2 280
238930	Apparel & accessories, n.e.c. (pt)	N	75	4 203	76 194	3 419	6 234	52 095	231 506	184 427	407 468	4 672

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital ex-pen-di-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315299, ALL OTHER CUT & SEW APPAREL MFG												
United States	2	410	146	13 594	265 290	10 391	18 441	150 820	569 064	451 361	986 548	16 989
California	4	72	24	1 634	30 123	1 242	2 266	18 524	76 610	59 849	136 300	2 580
Florida	1	18	8	728	11 900	629	1 084	8 304	27 663	14 522	42 363	548
Illinois	2	13	6	929	16 643	845	1 544	14 014	53 296	21 059	74 459	1 784
Tennessee	-	9	9	1 908	65 050	923	1 760	14 452	85 585	97 760	188 485	4 843
Texas	1	28	13	1 027	12 705	775	1 391	9 301	19 829	23 154	42 920	572

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315299, ALL OTHER CUT & SEW APPAREL MFG		315299, ALL OTHER CUT & SEW APPAREL MFG—Con.	
Companies ¹	number.. 401	3152991, All other cut & sew apparel mfg—manufacturer—Con.	
All establishments	number.. 410	Production workers, average for year	number.. 10 294
Establishments with 1 to 19 employees	number.. 264	Production workers on March 12	number.. 10 345
Establishments with 20 to 99 employees	number.. 112	Production workers on May 12	number.. 10 542
Establishments with 100 employees or more	number.. 34	Production workers on August 12	number.. 10 429
All employees	number.. 13 594	Production workers on November 12	number.. 9 860
Total compensation ²	\$1,000.. 308 965	Production-worker hours	1,000.. 18 225
Annual payroll	\$1,000.. 265 290	Production-worker wages	\$1,000.. 149 683
Total fringe benefits	\$1,000.. 43 675	Total cost of materials	\$1,000.. 424 294
Production workers, average for year	number.. 10 391	Cost of materials, parts, containers, etc., consumed	\$1,000.. 298 599
Production workers on March 12	number.. 10 432	Cost of resales	\$1,000.. 60 000
Production workers on May 12	number.. 10 636	Cost of fuels	\$1,000.. 1 521
Production workers on August 12	number.. 10 534	Cost of purchased electricity	\$1,000.. 5 158
Production workers on November 12	number.. 9 962	Cost of contract work	\$1,000.. 59 016
Production-worker hours	1,000.. 18 441	Quantity of electricity purchased for heat and power	1,000 kWh.. 77 546
Production-worker wages	\$1,000.. 150 820	Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total cost of materials	\$1,000.. 451 361	Total value of shipments	\$1,000.. 928 567
Cost of materials, parts, containers, etc., consumed	\$1,000.. 313 104	Primary products value of shipments	\$1,000.. X
Cost of resales	\$1,000.. 64 325	Secondary products value of shipments	\$1,000.. X
Cost of fuels	\$1,000.. 1 527	Total miscellaneous receipts	\$1,000.. X
Cost of purchased electricity	\$1,000.. 5 684	Value of resales	\$1,000.. X
Cost of contract work	\$1,000.. 66 721	Contract receipts	\$1,000.. X
Quantity of electricity purchased for heat and power	1,000 kWh.. 85 085	Other miscellaneous receipts	\$1,000.. X
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Primary products specialization ratio	percent.. X
Total value of shipments	\$1,000.. 986 548	Value of primary products shipments made in all industries	\$1,000.. X
Primary products value of shipments	\$1,000.. 746 992	Value of primary products shipments made in this industry	\$1,000.. X
Secondary products value of shipments	\$1,000.. 129 631	Value of primary products shipments made in other industries	\$1,000.. X
Total miscellaneous receipts	\$1,000.. 109 925	Coverage ratio	percent.. X
Value of resales	\$1,000.. 105 124	Value added	\$1,000.. 537 244
Contract receipts	\$1,000.. D	Total inventories, beginning of year	\$1,000.. 256 888
Other miscellaneous receipts	\$1,000.. D	Finished goods inventories, beginning of year	\$1,000.. 159 710
Primary products specialization ratio	percent.. 85	Work-in-process inventories, beginning of year	\$1,000.. 33 181
Value of primary products shipments made in all industries	\$1,000.. 828 109	Materials and supplies inventories, beginning of year	\$1,000.. 63 997
Value of primary products shipments made in this industry	\$1,000.. 746 992	Total inventories, end of year	\$1,000.. 294 231
Value of primary products shipments made in other industries	\$1,000.. 81 117	Finished goods inventories, end of year	\$1,000.. 195 948
Coverage ratio	percent.. 90	Work-in-process inventories, end of year	\$1,000.. 29 914
Value added	\$1,000.. 569 064	Materials and supplies inventories, end of year	\$1,000.. 68 369
Total inventories, beginning of year	\$1,000.. 278 609	Total inventories, end of year	\$1,000.. 294 231
Finished goods inventories, beginning of year	\$1,000.. 162 562	Finished goods inventories, end of year	\$1,000.. 195 948
Work-in-process inventories, beginning of year	\$1,000.. 34 056	Work-in-process inventories, end of year	\$1,000.. 29 914
Materials and supplies inventories, beginning of year	\$1,000.. 81 991	Materials and supplies inventories, end of year	\$1,000.. 68 369
Total inventories, end of year	\$1,000.. 316 623	Gross book value of total assets at beginning of year	\$1,000.. X
Finished goods inventories, end of year	\$1,000.. 199 496	Total capital expenditures (new and used)	\$1,000.. X
Work-in-process inventories, end of year	\$1,000.. 30 999	Capital expenditures for buildings and other structures (new and used)	\$1,000.. X
Materials and supplies inventories, end of year	\$1,000.. 86 128	Capital expenditures for machinery and equipment (new and used)	\$1,000.. X
Gross book value of total assets at beginning of year	\$1,000.. 126 732	Total retirements ²	\$1,000.. X
Total capital expenditures (new and used)	\$1,000.. 16 989	Gross book value of total assets at end of year	\$1,000.. X
Capital expenditures for buildings and other structures (new and used)	\$1,000.. 4 806	Total depreciation during year ²	\$1,000.. X
Capital expenditures for machinery and equipment (new and used)	\$1,000.. 12 183	Total rental payments ²	\$1,000.. X
Total retirements ²	\$1,000.. 5 400	Buildings and other structures rental payments ²	\$1,000.. X
Gross book value of total assets at end of year	\$1,000.. 138 321	Machinery and equipment rental payments ²	\$1,000.. X
Total depreciation during year ²	\$1,000.. 15 044	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. X
Total rental payments ²	\$1,000.. 17 443	Response coverage ratio ⁴	percent.. X
Buildings and other structures rental payments ²	\$1,000.. 11 596	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. X
Machinery and equipment rental payments ²	\$1,000.. 5 847	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 1 445	Cost of purchased communications services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 71	Response coverage ratio ⁴	percent.. X
Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 269	Cost of purchased accounting and bookkeeping services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 71	Response coverage ratio ⁴	percent.. X
Cost of purchased communications services ³	\$1,000.. 3 272	Cost of purchased advertising services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 71	Response coverage ratio ⁴	percent.. X
Cost of purchased legal services ³	\$1,000.. 1 116	Cost of purchased software and other data processing services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 71	Response coverage ratio ⁴	percent.. X
Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 128	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. X
Response coverage ratio ⁴	percent.. 71	Response coverage ratio ⁴	percent.. X
Cost of purchased advertising services ³	\$1,000.. 9 208		
Response coverage ratio ⁴	percent.. 71		
Cost of purchased software and other data processing services ³	\$1,000.. 818	3152992, All other cut & sew apparel mfg—jobber	
Response coverage ratio ⁴	percent.. 71	Companies ¹	number.. N
Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 397	All establishments	number.. 6
Response coverage ratio ⁴	percent.. 71	Establishments with 1 to 19 employees	number.. 3
		Establishments with 20 to 99 employees	number.. 3
		Establishments with 100 employees or more	number.. -
		All employees	number.. 145
		Total compensation ²	\$1,000.. 3 490
		Annual payroll	\$1,000.. 2 885
		Total fringe benefits	\$1,000.. 605
		Production workers, average for year	number.. 97
		Production workers on March 12	number.. 87
		Production workers on May 12	number.. 94
		Production workers on August 12	number.. 105
		Production workers on November 12	number.. 102
		Production-worker hours	1,000.. 216
		Production-worker wages	\$1,000.. 1 137
3152991, All other cut & sew apparel mfg—manufacturer			
Companies ¹	number.. N		
All establishments	number.. 404		
Establishments with 1 to 19 employees	number.. 261		
Establishments with 20 to 99 employees	number.. 109		
Establishments with 100 employees or more	number.. 34		
All employees	number.. 13 449		
Total compensation ²	\$1,000.. 305 475		
Annual payroll	\$1,000.. 262 405		
Total fringe benefits	\$1,000.. 43 070		

Table 3. Detailed Statistics by Industry: 1997—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315299, ALL OTHER CUT & SEW APPAREL MFG— Con.		315299, ALL OTHER CUT & SEW APPAREL MFG— Con.	
3152992, All other cut & sew apparel mfg—jobber —Con.		3152992, All other cut & sew apparel mfg—jobber —Con.	
Total cost of materials	\$1,000..	Total inventories, end of year	\$1,000..
Cost of materials, parts, containers, etc., consumed	14 505	Finished goods inventories, end of year	3 548
Cost of resales	4 325	Work-in-process inventories, end of year	1 085
Cost of fuels	6	Materials and supplies inventories, end of year	17 759
Cost of purchased electricity	526	Gross book value of total assets at beginning of year	\$1,000..
Cost of contract work	7 705	Total capital expenditures (new and used)	\$1,000..
Quantity of electricity purchased for heat and power	1,000 kWh..	Capital expenditures for buildings and other structures (new and used)	\$1,000..
Quantity of electricity generated less sold for heat and power ...	1,000 kWh..	Capital expenditures for machinery and equipment (new and used)	\$1,000..
Total value of shipments	\$1,000..	Total retirements ²	\$1,000..
Primary products value of shipments	\$1,000..	Gross book value of total assets at end of year	\$1,000..
Secondary products value of shipments	\$1,000..	Total depreciation during year ²	\$1,000..
Total miscellaneous receipts	\$1,000..	Total rental payments ²	\$1,000..
Value of resales	\$1,000..	Buildings and other structures rental payments ²	\$1,000..
Contract receipts	\$1,000..	Machinery and equipment rental payments ²	\$1,000..
Other miscellaneous receipts	\$1,000..	Cost of purchased services for the repair of buildings and other structures ³	\$1,000..
Primary products specialization ratio	percent..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in all industries	\$1,000..	Cost of purchased services for the repair of machinery and equipment ³	\$1,000..
Value of primary products shipments made in this industry	\$1,000..	Response coverage ratio ⁴	percent..
Value of primary products shipments made in other industries	\$1,000..	Cost of purchased communications services ³	\$1,000..
Coverage ratio	percent..	Response coverage ratio ⁴	percent..
Value added	\$1,000..	Cost of purchased legal services ³	\$1,000..
Total inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Finished goods inventories, beginning of year	\$1,000..	Cost of purchased accounting and bookkeeping services ³	\$1,000..
Work-in-process inventories, beginning of year	\$1,000..	Response coverage ratio ⁴	percent..
Materials and supplies inventories, beginning of year	\$1,000..	Cost of purchased advertising services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased software and other data processing services ³	\$1,000..
		Response coverage ratio ⁴	percent..
		Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000..
		Response coverage ratio ⁴	percent..

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315299, ALL OTHER CUT & SEW APPAREL MFG												
All establishments	2	410	146	13 594	265 290	10 391	18 441	150 820	569 064	451 361	986 548	16 989
Establishments with 1 to 4 employees	9	137	—	279	4 237	248	373	2 851	8 222	8 118	16 576	298
Establishments with 5 to 9 employees	7	60	—	421	5 401	337	495	3 743	10 702	10 723	21 468	308
Establishments with 10 to 19 employees	5	67	—	908	16 457	673	1 124	10 087	35 806	27 935	62 958	939
Establishments with 20 to 49 employees	4	76	76	2 377	39 443	1 890	3 449	26 631	100 610	74 638	173 989	1 691
Establishments with 50 to 99 employees	2	36	36	2 420	41 158	1 999	3 511	28 289	89 362	61 421	152 677	1 418
Establishments with 100 to 249 employees	2	26	26	4 249	76 367	3 379	6 386	49 310	145 220	127 921	284 213	5 537
Establishments with 250 to 499 employees	—	6	6	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	128	—	595	7 084	471	674	4 985	14 143	13 911	28 197	562

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315299	All other cut & sew apparel mfg	410	13 594	265 290	10 391	18 441	150 820	569 064	451 361	986 548	16 989
3152991	Men's, and junior boys' athletic uniforms	45	4 169	75 378	3 368	6 421	49 325	175 034	119 827	273 345	4 513
3152993	Women's, misses', and juniors' athletic uniforms	21	1 422	35 642	879	1 487	11 449	43 856	40 591	80 332	3 483
3152995	Apparel, nec	82	4 072	80 205	3 223	5 752	53 783	211 561	154 103	358 254	3 782

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315299	All other cut and sew apparel	N	X	X	828 109	N	X	X	N
3152991	Men's and junior boys' athletic uniforms @	N	X	X	206 515	N	X	X	N
31529911	Men's and junior boys' athletic uniforms	N	X	X	206 515	N	X	X	N
3152991100	Men's and junior boys' athletic uniforms	51	X	X	206 515	53	X	X	200 723
3152993	Women's, misses', and juniors' athletic uniforms	N	X	X	72 986	N	X	X	N
31529931	Women's, misses', and juniors' athletic uniforms	N	X	X	72 986	N	X	X	N
3152993100	Women's, misses', and juniors' athletic uniforms	37	X	X	72 986	30	X	X	33 967
3152995	Apparel, nec	N	X	X	368 614	N	X	X	N
31529951	Apparel, nec	N	X	X	368 614	N	X	X	N
3152995111	Burial garments 1,000 units..	9	X	S	9 987	7	X	X	D
3152995121	Academic caps and gowns, and costumes, including theatrical	48	X	X	270 918	61	X	X	197 832
3152995131	Ecclesiastical vestments and special garments for fraternal orders (except tailored clothing and military-type uniforms)	31	X	X	87 709	47	X	X	59 637
3152995Y	Apparel, nec, nsk	N	X	X	-	N	X	X	N
3152995YVW	Apparel, nec, nsk	N	X	X	-	N	X	X	N
315299W	All other cut and sew apparel, nsk, total	N	X	X	179 994	N	X	X	N
315299WY	All other cut and sew apparel, nsk, total	N	X	X	179 994	N	X	X	N
315299WYWW	All other cut and sew apparel, nsk, for nonadministrative-record establishments	N	X	X	154 387	N	X	X	N
315299WYWY	All other cut and sew apparel, nsk, for administrative-record establishments	N	X	X	25 607	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3152991	MEN'S AND JUNIOR BOYS' ATHLETIC UNIFORMS @		
	United States	206 515	N
	California	11 221	N
	New York	8 002	N
	Pennsylvania	8 559	N
	Tennessee	50 536	N
	Texas	19 394	N
3152993	WOMEN'S, MISSES', AND JUNIORS' ATHLETIC UNIFORMS		
	United States	72 986	N
	California	3 267	N
	Tennessee	29 381	N
	Texas	10 147	N
3152995	APPAREL, NEC		
	United States	368 614	N
	California	57 798	N
	Florida	19 534	N
	Massachusetts	2 721	N
	New Jersey	9 425	N
	New York	90 757	N
	Pennsylvania	5 602	N
	South Carolina	59 244	N
	Texas	5 059	N
	Virginia	14 294	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315299	ALL OTHER CUT & SEW APPAREL MFG				
31321023	Broadwoven fabrics (piece goods)	X	101 132	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	10 699	X	N
31324000	Knit fabrics	X	61 513	X	N
31311003	Yarn, all fibers	X	7 009	X	N
33999301	Buttons, zippers, and slide fasteners	X	5 164	X	N
31611001	Finished leather	X	D	X	N
00970099	All other materials and components, parts, containers, and supplies	X	48 416	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	D	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315299 ALL OTHER CUT AND SEW APPAREL MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel). Clothing jobbers for these products, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

The data published with NAICS code 315299 include the following SIC industries:

- 2329 Men's and boys' clothing, n.e.c. (pt)
- 2339 Women's outerwear, n.e.c. (pt)
- 2389 Apparel and accessories, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315299 do not include establishments primarily engaged in the manufacture of waterproof rubber and plastic outerwear or rubber pants and raincoats. The NAICS definitions will be fully implemented with the 2002 Economic Census.

3152991 All Other Cut and Sew Apparel Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel). Examples of products made by these Establishments are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

3152992 All Other Cut and Sew Apparel Manufacturing - Jobbers

Establishments engaged as clothing jobbers (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel), who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel. Examples of these products are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. **Products Statistics (Tables 6a and 6b)**

NAICS product code	Footnote
@3152991	For additional detail, see Current Industrial Report MQ315A, Apparel.

Part 2. **Materials Consumed by Kind (Table 7)**

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030			
3151113391	2251620	2251619	3151927120	2259040	2259038 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt				3152127 pt.....	23699 pt	23699 pt
			3152113	23219 pt	23219 pt	3152127100 pt	2339900	2339900
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2369900	2369900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115	23229	23229	3152129	23419 pt	23419 pt
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191441	2252235	2252235				3152129100 pt	2341903	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
3151191591	2252287	2252287				315212B	23429	23429
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252581				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01						
315191C120	2253D05	2253D05	315211W pt.....	23950 pt	23950 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2310000 pt	2310000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2321000 pt	2321000 pt			
			315211WYWW pt...	2322000 pt	2322000 pt			
315191E	2253E	2253E	315211WYWW pt...	2325000 pt	2325000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2326000 pt	2326000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2329000 pt	2329000 pt			
			315211WYWW pt...	2341000 pt	2341000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2384000 pt	2384000 pt			
315191G100	2259020	2259020	315211WYWW pt...	2385000 pt	2385000 pt			
			315211WYWW pt...	2395000 pt	2395000 pt			
315191W pt.....	22530	22530						

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			3159993100.....	2385190.....	2385198 pt	315999WYVW pt...	5699002.....	5699000 pt

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1997

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1997 Economic Census

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Hat, Cap, and Millinery Manufacturing

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Industry Series



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315991 235300	Hat, cap, & millinery mfg	361	389	17 077	301 250	13 913	25 438	212 382	553 742	381 159	942 554	18 558
	Hats, caps, & millinery	N	389	17 077	301 250	13 913	25 438	212 382	553 742	381 159	942 554	18 558

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315991, HAT, CAP, & MILLINERY MFG												
United States	1	389	160	17 077	301 250	13 913	25 438	212 382	553 742	381 159	942 554	18 558
California	3	53	16	1 324	23 962	1 086	1 940	14 332	39 990	22 923	62 578	2 201
Missouri	-	37	28	3 245	43 101	2 572	4 524	29 095	107 423	46 453	149 048	1 534
New Jersey	-	11	7	389	6 971	326	545	5 437	10 136	11 706	22 062	85
New York	-	86	19	2 561	57 704	2 228	3 939	43 691	114 403	58 333	179 861	4 566
North Carolina	-	9	5	205	2 731	161	269	2 059	5 255	2 342	7 470	169
Pennsylvania	-	17	8	1 322	29 597	1 063	2 021	20 830	51 908	44 031	100 033	1 707
Texas	1	27	16	1 998	30 866	1 631	2 994	21 217	71 739	44 553	118 839	2 318

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315991, HAT, CAP, & MILLINERY MFG		315991, HAT, CAP, & MILLINERY MFG—Con.	
Companies ¹	number.. 361	Value added	\$1,000.. 553 742
All establishments	number.. 389	Total inventories, beginning of year	\$1,000.. 192 312
Establishments with 1 to 19 employees	number.. 229	Finished goods inventories, beginning of year	\$1,000.. 93 481
Establishments with 20 to 99 employees	number.. 111	Work-in-process inventories, beginning of year	\$1,000.. 23 441
Establishments with 100 employees or more	number.. 49	Materials and supplies inventories, beginning of year	\$1,000.. 75 390
All employees	number.. 17 077	Total inventories, end of year	\$1,000.. 182 451
Total compensation ²	\$1,000.. 358 084	Finished goods inventories, end of year	\$1,000.. 85 158
Annual payroll	\$1,000.. 301 250	Work-in-process inventories, end of year	\$1,000.. 24 111
Total fringe benefits	\$1,000.. 56 834	Materials and supplies inventories, end of year	\$1,000.. 73 182
Production workers, average for year	number.. 13 913	Gross book value of total assets at beginning of year	\$1,000.. 210 234
Production workers on March 15	number.. 13 885	Total capital expenditures (new and used)	\$1,000.. 18 558
Production workers on May 15	number.. 14 221	Capital expenditures for buildings and other structures	
Production workers on August 15	number.. 13 995	(new and used)	\$1,000.. 4 874
Production workers on November 15	number.. 13 551	Capital expenditures for machinery and equipment (new	
Production-worker hours	1,000.. 25 438	and used)	\$1,000.. 13 684
Production-worker wages	\$1,000.. 212 382	Total retirements ²	\$1,000.. 6 883
Total cost of materials	\$1,000.. 381 159	Gross book value of total assets at end of year	\$1,000.. 221 909
Cost of materials, parts, containers, etc., consumed	\$1,000.. 325 213	Total depreciation during year ²	\$1,000.. 17 328
Cost of resales	\$1,000.. 33 788	Total rental payments ²	\$1,000.. 19 672
Cost of fuels	\$1,000.. 2 730	Buildings and other structures rental payments ²	\$1,000.. 10 354
Cost of purchased electricity	\$1,000.. 6 768	Machinery and equipment rental payments ²	\$1,000.. 9 318
Cost of contract work	\$1,000.. 12 660	Cost of purchased services for the repair of buildings and other	
Quantity of electricity purchased for heat and power	1,000 kWh.. 97 660	structures ³	\$1,000.. 1 178
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Response coverage ratio ⁴	percent.. 63
Total value of shipments	\$1,000.. 942 554	Cost of purchased services for the repair of machinery and	
Primary products value of shipments	\$1,000.. 822 980	equipment ³	\$1,000.. 2 237
Secondary products value of shipments	\$1,000.. 57 917	Response coverage ratio ⁴	percent.. 63
Total miscellaneous receipts	\$1,000.. 61 657	Cost of purchased communications services ³	\$1,000.. 1 521
Value of resales	\$1,000.. 51 512	Response coverage ratio ⁴	percent.. 63
Contract receipts	\$1,000.. 10 000	Cost of purchased legal services ³	\$1,000.. 519
Other miscellaneous receipts	\$1,000.. 145	Response coverage ratio ⁴	percent.. 63
Primary products specialization ratio	percent.. 93	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 207
Value of primary products shipments made in all industries	\$1,000.. 845 260	Response coverage ratio ⁴	percent.. 63
Value of primary products shipments made in this industry	\$1,000.. 822 980	Cost of purchased advertising services ³	\$1,000.. 5 440
Value of primary products shipments made in other		Response coverage ratio ⁴	percent.. 63
industries	\$1,000.. 22 280	Cost of purchased software and other data processing	
Coverage ratio	percent.. 97	services ³	\$1,000.. 1 010
		Response coverage ratio ⁴	percent.. 63
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$1,000.. 306
		Response coverage ratio ⁴	percent.. 63

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315991, HAT, CAP, & MILLINERY MFG												
All establishments	1	389	160	17 077	301 250	13 913	25 438	212 382	553 742	381 159	942 554	18 558
Establishments with 1 to 4 employees	8	115	—	233	3 369	214	319	2 541	6 542	4 173	10 737	235
Establishments with 5 to 9 employees	6	64	—	413	6 454	334	539	4 612	13 712	11 873	25 837	452
Establishments with 10 to 19 employees	3	50	—	736	10 954	592	964	7 604	22 449	14 299	37 475	660
Establishments with 20 to 49 employees	1	76	76	2 399	39 353	1 885	3 315	25 493	73 535	52 502	127 028	1 576
Establishments with 50 to 99 employees	—	35	35	2 316	41 010	2 009	3 627	27 959	82 117	58 475	143 797	1 632
Establishments with 100 to 249 employees	1	40	40	5 566	88 238	4 741	8 846	61 383	180 678	105 085	283 957	5 352
Establishments with 250 to 499 employees	—	5	5	1 630	27 191	1 337	2 622	19 966	57 418	33 003	90 682	2 259
Establishments with 500 to 999 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	154	—	700	9 246	602	873	6 962	18 037	9 774	27 840	682

¹Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315991	Hat, cap, & millinery mfg ..	389	17 077	301 250	13 913	25 438	212 382	553 742	381 159	942 554	18 558
3159911	Hats and hat bodies, except cloth and millinery	31	2 379	43 848	1 864	3 333	30 959	102 912	76 152	178 812	3 570
3159913	Cloth hats and caps	125	11 881	209 782	9 719	18 168	150 482	363 164	235 063	604 221	12 755
3159915	Millinery (women's, misses', juniors', girls', little boys', and infants' trimmed hats made from hat bodies or other millinery materials)	36	1 221	26 554	925	1 737	14 617	54 420	50 266	106 559	704

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315991	Hats, caps, and millinery	N	X	X	845 260	N	X	X	864 723
3159911	Hats and hat bodies, except cloth and millinery	N	X	X	174 422	N	X	X	178 615
31599111	Hats and hat bodies, except cloth and millinery	N	X	X	174 422	N	X	X	N
3159911111	Finished straw hats, except harvest hats, men's and junior boys'	23	X	234.8	46 761	28	X	^P 343.8	55 912
3159911121	Wool-felt finished hats, excluding millinery	14	X	212.1	33 481	14	X	309.2	34 685
3159911131	Fur-felt finished hats, excluding millinery	13	X	116.5	74 964	11	X	102.2	44 544
3159911141	Hat bodies, except hat bodies finished into hats or millinery in the same plant	12	X	^Q 192.5	19 216	8	X	^Q 619.4	43 474
3159911Y	Hats and hat bodies, except cloth and millinery, nsk	N	X	X	-	N	X	X	N
3159911YWV	Hats and hat bodies, except cloth and millinery, nsk	N	X	X	-	N	X	X	-
3159913	Cloth hats and caps	N	X	X	534 951	N	X	X	493 406
31599131	Cloth hats and caps	N	X	X	534 951	N	X	X	N
3159913111	Men's and junior boys' cloth hats, except uniform	42	X	^Q 2 586.4	67 199	34	X	S	73 127
3159913121	Men's and junior boys' caps, except uniform	70	X	S	402 057	62	X	^P 7 944.8	337 435
3159913131	Men's and junior boys' uniform hats and caps	22	X	S	28 651	30	X	S	43 992
3159913141	All other hats and caps (harvest hats, women's uniform hats and caps, headwear made from purchased knit fabrics, etc.)	23	X	S	37 044	16	X	^Q 772.5	25 652
3159913Y	Cloth hats and caps, nsk	N	X	X	-	N	X	X	N
3159913YWV	Cloth hats and caps, nsk	N	X	X	-	N	X	X	13 200
3159915	Millinery (women's, misses', juniors', girls', little boys', and infants' trimmed hats made from hat bodies or other millinery materials)	N	X	X	95 275	N	X	X	99 913
31599151	Millinery (women's, misses', juniors', girls', little boys', and infants' trimmed hats made from hat bodies or other millinery materials)	N	X	X	95 275	N	X	X	N
3159915111	Women's, misses', juniors', girls', little boys', and infants' fur-felt and wool-felt millinery	19	X	^Q 206.2	28 497	20	X	258.3	31 753
3159915121	Women's, misses', juniors', girls', little boys', and infants' fabrics millinery, made from all types of fabrics (including ribbon and pile fabrics)	14	X	S	32 536	15	X	S	28 426
3159915131	Women's, misses', juniors', girls', little boys', and infants' all other millinery, including flowered millinery, straw (natural or synthetic), whimsies, miniatures, and hat frames	27	X	^P 425.1	34 242	25	X	S	31 188
3159915Y	Millinery (women's, misses', juniors', girls', little boys', and infants' trimmed hats made from hat bodies or other millinery materials), nsk	N	X	X	-	N	X	X	N
3159915YWV	Millinery (women's, misses', juniors', girls', little boys', and infants' trimmed hats made from hat bodies or other millinery materials), nsk	N	X	X	-	N	X	X	8 546
315991W	Hats, caps, and millinery, nsk, total	N	X	X	40 612	N	X	X	92 789
315991WY	Hats, caps, and millinery, nsk, total	N	X	X	40 612	N	X	X	N
315991WYWW	Hats, caps, and millinery, nsk, for nonadministrative-record establishments	N	X	X	14 818	N	X	X	81 848
315991WYWY	Hats, caps, and millinery, nsk, for administrative-record establishments	N	X	X	25 794	N	X	X	10 941

Additional information is available for this item; see Appendix F.

@ Additional data are available for this item in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^P 10 to 19 percent estimated; ^Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3159911	HATS AND HAT BODIES, EXCEPT CLOTH AND MILLINERY		
	United States	174 422	178 615
	Missouri	37 781	33 444
	New York	13 215	6 818
	Texas	64 710	57 585
3159913	CLOTH HATS AND CAPS		
	United States	534 951	493 406
	California	45 917	16 071
	Colorado	24 942	N
	Florida	9 318	7 425
	Georgia	20 780	24 981
	Kentucky	10 768	9 348
	Minnesota	8 234	N
	Missouri	113 751	138 415
	New Jersey	3 918	N
	New York	108 721	88 473
	North Carolina	5 917	9 178
	Pennsylvania	17 169	10 743
	Texas	47 640	27 458
	Virginia	11 913	26 745
3159915	MILLINERY (WOMEN'S, MISSES', JUNIORS', GIRLS', LITTLE BOYS', AND INFANTS' TRIMMED HATS MADE FROM HAT BODIES OR OTHER MILLINERY MATERIALS)		
	United States	95 275	99 913
	California	3 681	9 310
	New Jersey	11 018	N
	New York	33 779	42 243
	Pennsylvania	14 892	N
	Texas	6 239	N

Additional information is available for this item; see Appendix F.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315991	HAT, CAP, & MILLINERY MFG				
31321023	Broadwoven fabrics (piece goods)	X	142 131	X	95 074
31322103	Narrow fabrics (12 inches or less in width)	X	24 415	X	40 826
31323003	Wool felt	X	24 714	X	6 675
31599100	Hat bodies	X	48 815	X	71 656
00970099	All other materials and components, parts, containers, and supplies	X	63 958	X	71 111
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	21 180	X	64 844

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315991 HAT, CAP, AND MILLINERY MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew hats, caps, millinery, and hat bodies from purchased fabric. Jobbers, who perform entrepreneurial functions involved in hat, cap, and millinery manufacture, including buying raw materials, designing and preparing samples, arranging for hats,

caps, and millinery to be made from their materials, and marketing finished hats, caps, and millinery, are included.

The data published with NAICS code 315991 include the following SIC industry:

2353 Hats, caps, and millinery

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWWY pt ...	2321902	2321902
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt ...	2253000	2253000	315211WYWWY pt ...	2322002 pt	2322002 pt
315111111	2251417	2251417	315191WYWW pt ...	2259000 pt	2259000 pt	315211WYWWY pt ...	2325002 pt	2325002 pt
315111121	2252513	2252513	315191WYWWY pt ..	2253002	2253002	315211WYWWY pt ...	2325902	2325902
315111131	2251413	2251413	315191WYWWY pt ...	2259002 pt	2259002 pt	315211WYWWY pt ...	2326002 pt	2326002 pt
315111141	2251419	2251419				315211WYWWY pt ...	2326902	2326902
315111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWWY pt ...	2329002 pt	2329002 pt
315111191 pt.....	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWWY pt ...	2329902	2329902
315111191 pt.....	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWWY pt ...	2341002 pt	2341002 pt
3151111YWW pt	2251400	2251400	3151921YVV	2254100	2254100	315211WYWWY pt ...	2384002 pt	2384002 pt
3151111YVV pt	2252500 pt	2252500 pt				315211WYWWY pt ...	2385002 pt	2385002 pt
3151113	22516	22516	3151923	22544	22544	315211WYWWY pt ...	2395002 pt	2395002 pt
3151113111	2251612	2251612	3151923110	2254411	2254411			
3151113221	2251614	2251614	3151923120	2254413	2254413	3152121	23319 pt	23319 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	3152121100	2331900	2331900
3151113341	2251615	2251615						
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	3152123 pt.....	23359 pt	23359 pt
3151113391	2251620	2251619	3151927110	2259030	2259030 pt	3152123 pt.....	23619 pt	23619 pt
3151113YVV	2251600	2251600	3151927120	2259040	2259040	3152123100 pt	2335900	2335900
			3151927YVV	2259000 pt	2259030 pt	3152123100 pt	2361900	2361900
3151115	22518	22518	315192W pt.....	22540	22540	3152125	23379 pt	23379 pt
3151115121	2251814	2251814	315192W pt.....	22590 pt	22590 pt	3152125100	2337900	2337900
3151115131	2251817	2251817	315192WYWW pt	2254000	2254000			
3151115YVV	2251800	2251800	315192WYWW pt	2259000 pt	2259000 pt	3152127 pt.....	23399 pt	23399 pt
			315192WYWWY pt ...	2254002	2254002	3152127 pt.....	23699 pt	23699 pt
315111W pt.....	22510	22510	315192WYWWY pt ...	2259002 pt	2259002 pt	3152127100 pt	2339900	2339900
315111W pt.....	22520 pt	22520 pt				3152127100 pt	2369900	2369900
315111WYWW pt.....	2251000	2251000	3152111	23119 pt	23119 pt	3152129	23419 pt	23419 pt
315111WYWW pt.....	2252000 pt	2252000 pt	3152111100	2311900	2311900	3152129100 pt	2341903	2341900 pt
315111WYWWY pt	2251002	2251002	31521113	23219 pt	23219 pt	3152129100 pt	2341900 pt	2341900 pt
315111WYWWY pt	2252002 pt	2252002 pt	3152113100	2321900	2321900			
						315212B	23429	23429
3151191	22522	22522	3152115 pt.....	23229	23229	315212B100	2342900	2342900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115 pt.....	23419 pt	23419 pt	315212D	23849 pt	93000 pt
3151191331	2252233	2252233	3152115100 pt	2322900	2322900	315212D100 pt	2384950 pt	9300000 pt
3151191441	2252235	2252235	3152115100 pt	2341901	2341901 pt	315212D100 pt	2384900 pt	9300000 pt
3151191551	2252243	2252243	3152115100 pt	2341900 pt	2341900 pt			
3151191561	2252245	2252245				315212F	23859 pt	23859 pt
3151191591	2252287	2252287	3152117	23259 pt	23259 pt	315212F100 pt	2385920	2385900 pt
3151191YVV	2252200	2252200	3152117100	2325900	2325900	315212F100 pt	2385900 pt	2385900 pt
3151193	22525 pt	22525 pt	3152119	23269 pt	23269 pt	315212H	23959 pt	23958 pt
3151193111	2252516	2252515	3152119100	2326900	2326900	315212H100 pt	2395900 pt	2395800 pt
3151193121	2252501	2252501				315212H100 pt	2395994	2395833
3151193131	2252503	2252503	315211B	23299 pt	23299 pt			
3151193241	2252521	2252521	315211B100	2329900	2329900	315212J	23899	93000 pt
3151193251	2252527	2252527				315212J100 pt	2389993	9300000 pt
3151193261	2252533	2252531	315211D	23849 pt	93000 pt	315212J100 pt	2389900	9300000 pt
3151193371	2252551	2252551	315211D100 pt	2384994	9300000 pt			
3151193381	2252557	2252557	315211D100 pt	2384900 pt	9300000 pt	315212W pt.....	23310 pt	23310 pt
3151193391	2252561	2252561				315212W pt.....	23319 pt	23319 pt
31511933B1	2252588	2252581	315211F	23859 pt	23859 pt	315212W pt.....	23350 pt	23350 pt
3151193YVV	2252500 pt	2252500 pt	315211F100 pt	2385910	2385900 pt	315212W pt.....	23359 pt	23359 pt
			315211F100 pt	2385900 pt	2385900 pt	315212W pt.....	23370 pt	23370 pt
3151195	22526	22526				315212W pt.....	23379 pt	23379 pt
3151195111	2252625	2252625	315211H	23959 pt	23958 pt	315212W pt.....	23390 pt	23390 pt
3151195121	2252642	2252642	315211H100 pt	2395900 pt	2395800 pt	315212W pt.....	23399 pt	23399 pt
3151195131	2252651	2252651	315211H100 pt	2395993	2395811	315212W pt.....	23410 pt	23410 pt
3151195YVV	2252600	2252600				315212W pt.....	23419 pt	23419 pt
			315211W pt.....	23110 pt	23110 pt	315212W pt.....	23420 pt	23420 pt
315119W	22520 pt	22520 pt	315211W pt.....	23119 pt	23119 pt	315212W pt.....	23610 pt	23610 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23619 pt	23619 pt
315119WYWWY	2252002 pt	2252002 pt	315211W pt.....	23219 pt	23219 pt	315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23220 pt	23220 pt	315212W pt.....	23699 pt	23699 pt
3151911	22534	22534	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23840 pt	23840 pt
3151911100	2253400	2253400	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23850 pt	23850 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23850 pt	23850 pt
3151913	22535	22535	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23890 pt	23890 pt
3151913100	2253500	2253500				315212W pt.....	23950 pt	23950 pt
			315211W pt.....	23290 pt	23290 pt	315212WYWWV pt	2331000 pt	2331000 pt
3151915	22536	22536	315211W pt.....	23299 pt	23299 pt	315212WYWWV pt	2335000 pt	2335000 pt
3151915100	2253600	2253600	315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2337000 pt	2337000 pt
			315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2339000 pt	2339000 pt
3151917	2253A	2253A	315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2341000 pt	2341000 pt
3151917100	2253A00	2253A00	315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2342000 pt	2342000 pt
			315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2361000 pt	2361000 pt
3151919	2253B	2253B	315211W pt.....	23410 pt	23410 pt	315212WYWWV pt	2369000 pt	2369000 pt
3151919100	2253B00	2253B00	315211W pt.....	23840 pt	23840 pt	315212WYWWV pt	2384000 pt	2384000 pt
			315211W pt.....	23840 pt	23840 pt	315212WYWWV pt	2385000 pt	2385000 pt
315191A	2253C	2253C	315211W pt.....	23850 pt	23850 pt	315212WYWWV pt	2389000 pt	2389000 pt
315191A100	2253C00	2253C00				315212WYWWV pt	2395000 pt	2395000 pt
315191C	2253D	2253D	315211W pt.....	23950 pt	23950 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191C110	2253D01	2253D01	315211WYWW pt	2311000 pt	2311000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191C120	2253D05	2253D05	315211WYWW pt	2321000 pt	2321000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191C130	2253D09	2253D09	315211WYWW pt	2322000 pt	2322000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191CYVV	2253D00	2253D00	315211WYWW pt	2325000 pt	2325000 pt	315212WYWWV pt	2395000 pt	2395000 pt
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315191E100	2253E00	2253E00	315211WYWW pt	2341000 pt	2341000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191EYVV	2253E02	2253E02	315211WYWW pt	2384000 pt	2384000 pt	315212WYWWV pt	2395000 pt	2395000 pt
			315211WYWW pt	2385000 pt	2385000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191G	22590 pt	22590 pt	315211WYWW pt	2395000 pt	2395000 pt	315212WYWWV pt	2395000 pt	2395000 pt
315191G100	2259020	2259020	315211WYWWY pt ..	2311002 pt	2311002 pt	315212WYWWV pt	2395000 pt	2395000 pt
			315211WYWWY pt ..	2311902	2311902	315212WYWWV pt	2395000 pt	2395000 pt
315191W pt.....	22530	22530	315211WYWWY pt ..	2321002 pt	23			

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315212WYWW pt ...	2335002 pt	2335002 pt	315224W pt	23250 pt	23250 pt	3152330 pt	23353	23353
315212WYWW pt ...	2335902 pt	2335902 pt	315224W pt	23690 pt	23690 pt	3152330 pt	23610 pt	23610 pt
315212WYWW pt ...	2337002 pt	2337002 pt	315224WYWW pt ...	2325000 pt	2325000 pt	3152330 pt	23615 pt	23615 pt
315212WYWW pt ...	2337902 pt	2337902 pt	315224WYWW pt ...	2369000 pt	2369000 pt	3152330010	2335300 pt	2335300 pt
315212WYWW pt ...	2339002 pt	2339002 pt	315224WYWW pt ...	2325002 pt	2325002 pt	3152330020	2361501	2361500 pt
315212WYWW pt ...	2339902 pt	2339902 pt	315224WYWW pt ...	2369002 pt	2369002 pt	3152330YWW pt ...	2335000 pt	2335000 pt
315212WYWW pt ...	2341002 pt	2341002 pt	3152251	23261	23261	3152330YWW pt ...	2335300 pt	2335300 pt
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315212WYWW pt ...	2361002 pt	2361002 pt	3152253000	2326200	2326200	3152330YWW pt ...	2335002 pt	2335002 pt
315212WYWW pt ...	2369002 pt	2369002 pt	315225W	23260 pt	23260 pt	3152330YWW pt ...	2361002 pt	2361002 pt
315212WYWW pt ...	2369902 pt	2369902 pt	315225WYWW	2326000 pt	2326000 pt	3152341 pt	23371	23371
315212WYWW pt ...	2384002 pt	2384002 pt	315225WYWW	2326002 pt	2326002 pt	3152341010	2337100 pt	2337100 pt
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315212WYWW pt ...	2389002 pt	2389002 pt	3152281	23291	23291	3152341YVW pt ...	2337100 pt	2337100 pt
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3152211 pt	23221	23221	3152283 pt	23293 pt	23293 pt	3152343	23372	23372
3152211 pt	23412 pt	23412 pt	3152283 pt	23693 pt	23693 pt	3152343000	2337200	2337200
3152211010	2322100 pt	2322100 pt	3152283010	2329310	2329310	3152345 pt	23374	23374
3152211020	2341203	2341200 pt	3152283020	2369395	2369393 pt	3152345 pt	23693	23693 pt
3152211YVW pt ...	2322100 pt	2322100 pt	3152283130	2329360	2329360	3152345010	2337410	2337410
3152211YVW pt ...	2341200 pt	2341200 pt	3152283140	2369372	2369370 pt	3152345030	2369394	2369393 pt
3152213 pt	23222	23222	3152283150	2329380	2329380	3152345120	2337420	2337420
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3152213020	2341303	2341300 pt	3152285	23851 pt	23851 pt	3152347	23851 pt	23851 pt
3152213YVW pt ...	2322200 pt	2322200 pt	3152285100	2385193	2385198 pt	3152347000	2385142	2385140 pt
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3152215 pt	23693 pt	23693 pt	315228W pt	23690 pt	23690 pt	315234W pt	23690 pt	23690 pt
3152215 pt	23840 pt	23840 pt	315228W pt	23850 pt	23850 pt	315234W pt	23850 pt	23850 pt
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3152215000 pt ...	2384011	2384011	315228WYWW pt ...	2369000 pt	2369000 pt	315234WYVW pt ...	2369000 pt	2369000 pt
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315221W pt	23410 pt	23410 pt	315228WYVW pt ...	2329002 pt	2329002 pt	315234WYVW pt ...	2337002 pt	2337002 pt
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315221W pt	23840 pt	23840 pt	315228WYVW pt ...	2385002 pt	2385002 pt	315234WYVW pt ...	2385002 pt	2385002 pt
315221WYVW pt ...	2322000 pt	2322000 pt	3152311	23412 pt	23412 pt	315239	23392	23392
315221WYVW pt ...	2341000 pt	2341000 pt	3152311010	2341201	2341200 pt	315239000	23394	23394
315221WYVW pt ...	2369000 pt	2369000 pt	3152311020	2341202	2341200 pt	3152391000	2339200	2339200
315221WYVW pt ...	2384000 pt	2384000 pt	3152311YVW	2341200 pt	2341200 pt	3152393	23394	23394
315221WYVW pt ...	2322002 pt	2322002 pt	3152313	23413 pt	23413 pt	3152393000	2339400	2339400
315221WYVW pt ...	2341002 pt	2341002 pt	3152313010	2341301	2341300 pt	3152395 pt	23395	23395
315221WYVW pt ...	2369002 pt	2369002 pt	3152313020	2341302	2341300 pt	3152395 pt	23693	23693 pt
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3152221 pt	23115	23115	3152315	23421	23421	3152395020	2369341	2369340 pt
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3152221010	2311500	2311500	3152317 pt	23422	23422	3152395YVW pt ...	2369300 pt	2369300 pt
3152221020	2369202	2369200 pt	3152317 pt	23890 pt	23890 pt	3152397 pt	23397 pt	23397 pt
3152221YVW	2369200 pt	2369200 pt	315231710	2342210	2342210	3152397 pt	23693 pt	23693 pt
3152223	23116	23116	3152317121	2342281	2342281	3152397020	2339760	2339760
3152223000	2311600	2311600	3152317131	2389035	2389031 pt	3152397110	2339730	2339730
3152225	23117	23117	3152317151	2389071	2389071	3152397130	2339780	2339780
3152225000	2311700	2311700	3152317YVW pt ...	2342200	2342200	3152397140	2369371	2369370 pt
3152227	23851 pt	23851 pt	3152317YVW pt ...	2389000 pt	2389000 pt	3152397YVW pt ...	2339700	2339700
3152227000 pt ...	2385100 pt	2385100 pt	3152319 pt	23693 pt	23693 pt	3152397YVW pt ...	2369300 pt	2369300 pt
3152227000 pt ...	2385141	2385140 pt	3152319 pt	23840 pt	23840 pt	3152399	23851 pt	23851 pt
315222W pt	23110 pt	23110 pt	3152319000 pt ...	2369381	2369380 pt	3152399100	2385194	2385198 pt
315222W pt	23690 pt	23690 pt	3152319000 pt ...	2384021	2384021	315239W pt	23390 pt	23390 pt
315222W pt	23850 pt	23850 pt	315231W pt	23410 pt	23410 pt	315239W pt	23690 pt	23690 pt
315222WYVW pt ...	2311000 pt	2311000 pt	315231W pt	23420 pt	23420 pt	315239W pt	23850 pt	23850 pt
315222WYVW pt ...	2369000 pt	2369000 pt	315231W pt	23690 pt	23690 pt	315239WYVW pt ...	2339000 pt	2339000 pt
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315222WYVW pt ...	2311002 pt	2311002 pt	315231W pt	23890 pt	23890 pt	315239WYVW pt ...	2385000 pt	2385000 pt
315222WYVW pt ...	2369002 pt	2369002 pt	315231WYVW pt ...	2341000 pt	2341000 pt	315239WYVW pt ...	2339002 pt	2339002 pt
315222WYVW pt ...	2385002 pt	2385002 pt	315231WYVW pt ...	2342000 pt	2342000 pt	315239WYVW pt ...	2369002 pt	2369002 pt
3152231 pt	23213	23213	315231WYVW pt ...	2369000 pt	2369000 pt	315239WYVW pt ...	2385002 pt	2385002 pt
3152231 pt	23613 pt	23613 pt	315231WYVW pt ...	2384000 pt	2384000 pt	3152910 pt	23410 pt	23410 pt
3152231010	2321300 pt	2321300 pt	315231WYVW pt ...	2389000 pt	2389000 pt	3152910 pt	23412 pt	23412 pt
3152231020	2361302	2361300 pt	315231WYVW pt ...	2341002 pt	2341002 pt	3152910 pt	23413 pt	23413 pt
3152231YVW pt ...	2321300 pt	2321300 pt	315231WYVW pt ...	2342002 pt	2342002 pt	3152910 pt	23610 pt	23610 pt
3152231YVW pt ...	2361300 pt	2361300 pt	315231WYVW pt ...	2369002 pt	2369002 pt	3152910 pt	23613 pt	23613 pt
3152233 pt	23216	23216	315231WYVW pt ...	2384002 pt	2384002 pt	3152910 pt	23614 pt	23614 pt
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3152233010	2321600 pt	2321600 pt	315231WYVW pt ...	2341002 pt	2341002 pt	3152910 pt	23690 pt	23690 pt
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315223W pt	23610 pt	23610 pt	3152321 pt	23313	23313	3152910 pt	23850 pt	23850 pt
315223WYVW pt ...	2321000 pt	2321000 pt	3152321 pt	23613 pt	23613 pt	3152910 pt	23851 pt	23851 pt
315223WYVW pt ...	2361000 pt	2361000 pt	3152321010	2331300	2331300	31529101010	2341204	2341200 pt
315223WYVW pt ...	2321002 pt	2321002 pt	3152321120	2361301	2361300 pt	3152910120	2341304	2341300 pt
315223WYVW pt ...	2361002 pt	2361002 pt	3152321YVW	2361300 pt	2361300 pt	3152910230	2361303	2361300 pt
3152241 pt	23251	23251	3152323 pt	23314	23314	3152910240	2361403	2361400 pt
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3152241010	2325100 pt	2325100 pt	3152323010	2331400 pt	2331400 pt	3152910260	2369203	2369200 pt
3152241020	2369342	2369340 pt	3152323020	2361401	2361400 pt	3152910270	2369343	2369340 pt
3152241YVW pt ...	2325100 pt	2325100 pt	3152323YVW pt ...</					

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3152910YWW pt ...	2341200 pt	2341200 pt	3159911	23531	23531	3159995	23871	23871
3152910YWW pt ...	2341300 pt	2341300 pt	3159911111	2353101	2353101	3159995111	2387113	2387113
3152910YWW pt ...	2361000 pt	2361000 pt	3159911121	2353103	2353103	3159995121	2387115	2387115
3152910YWW pt ...	2361300 pt	2361300 pt	3159911131	2353105	2353105	3159995131	2387153	2387153
3152910YWW pt ...	2361400 pt	2361400 pt	3159911141	2353109	2353109	3159995141	2387155	2387155
3152910YWW pt ...	2361500 pt	2361500 pt	3159911YVW	2353100	2353100	3159995YVW	2387100	2387100
3152910YWW pt ...	2369000 pt	2369000 pt						
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3152910YWW pt ...	2369300 pt	2369300 pt	3159913111	2353201	2353201	3159997111	2387213	2387213
3152910YWW pt ...	2385000 pt	2385000 pt	3159913121	2353203	2353203	3159997121	2387215	2387215
			3159913131	2353205	2353205	3159997131	2387253	2387253
			3159913141	2353209	2353209	3159997141	2387255	2387255
			3159913YVW	2353200	2353200	3159997YVW	2387200	2387200
3152910YWW pt ...	2385100 pt	2385100 pt						
3152910YWW pt ...	2361002 pt	2361002 pt	3159915	23533	23533	315999A	23890 pt	23890 pt
3152910YWW pt ...	2369002 pt	2369002 pt	3159915111	2353301	2353301	315999A111	2389045	2389031 pt
3152910YWW pt ...	2385002 pt	2385002 pt	3159915121	2353303	2353303	315999A221	2389053	2389053
			3159915131	2353309	2353309	315999A231	2389057	2389057
			3159915YVW	2353300	2353300	315999AYVW	2389000 pt	2389000 pt
3152921	23710 pt	23710 pt				315999C pt	23961	23961
3152921100	2371000 pt	2371000 pt	315991W	23530	23530	315999C111 pt	2396111	2396111
			315991WYVW	2353000	2353000	315999C121	2396153	2396153
			315991WYVW	2353002	2353002	315999CYVW pt	2396100	2396100
						315999CYVW pt	2399000 pt	2399000 pt
3152925	23860 pt	23860 pt	3159921	23813	23813	315999E	23963 pt	23963 pt
3152925111	2386015	2386015	3159921000	2381300	2381300	315999E100	2396313	2396313
3152925221	2386053	2386053						
3152925231	2386098	2386098	3159923	23814	23814	315999G	56990 pt	56990 pt
3152925YVW	2386000 pt	2386000 pt	3159923000	2381400	2381400	315999G100 pt	5699010	5699000 pt
						315999G100 pt	5699020	5699000 pt
315292W pt	23710 pt	23710 pt	3159925	31510 pt	31510 pt	315999W pt	23390 pt	23390 pt
			3159925000	3151000 pt	3151000 pt	315999W pt	23850 pt	23850 pt
315292W pt	23860 pt	23860 pt	315992W pt	23810	23810	315999W pt	23870	23870
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315292WYVW pt	2371002	2371002	315992WYVW pt	2381000	2381000	315999W pt	23960 pt	23960 pt
315292WYVWY pt	2386002	2386002	315992WYVWY pt	3151000 pt	3151000 pt	315999W pt	23990 pt	23990 pt
3152991	23293 pt	23293 pt	315992WYVWY pt	2381002	2381002	315999W pt	23960 pt	23960 pt
3152991100	2329330	2329330	315992WYVWY pt	2381002	2381002	315999W pt	23990 pt	23990 pt
3152993	23397 pt	23397 pt	3159930	23230	23230	315999W pt	56990 pt	56990 pt
3152993100	2339720	2339720	3159930111	2323021	2323021	315999WYVW pt	2339000 pt	2339000 pt
			3159930121	2323027	2323027	315999WYVW pt	2385000 pt	2385000 pt
3152995	23890 pt	23890 pt	3159930231	2323028	2323028	315999WYVW pt	2387000	2387000
3152995111	2389081	2389081	3159930241	2323049	2323049	315999WYVW pt	2389000 pt	2389000 pt
3152995121	2389091	2389091	3159930YVW	2323000	2323000	315999WYVW pt	2396000 pt	2396000 pt
3152995131	2389098	2389098	3159930YVWY	2323002	2323002	315999WYVWY pt	2399000 pt	2399000 pt
3152995YVW	2389000 pt	2389000 pt				315999WYVWY pt	5699000	5699000 pt
						315999WYVWY pt	2339002 pt	2339002 pt
315299W pt	23290 pt	23290 pt	3159991	23397 pt	23397 pt	315999WYVWY pt	2385002 pt	2385002 pt
			3159991100	2339770	2339770	315999WYVWY pt	2387002	2387002
315299W pt	23390 pt	23390 pt				315999WYVWY pt	2389002 pt	2389002 pt
315299W pt	23890 pt	23890 pt	3159993	23851 pt	23851 pt	315999WYVWY pt	2396002 pt	2396002 pt
315299WYVW pt	2329000 pt	2329000 pt	3159993100	2385190	2385198 pt	315999WYVWY pt	2399002 pt	2399002 pt
315299WYVW pt	2339000 pt	2339000 pt						
315299WYVW pt	2389000 pt	2389000 pt						
315299WYVWY pt	2329002 pt	2329002 pt						
315299WYVWY pt	2339002 pt	2339002 pt						
315299WYVWY pt	2389002 pt	2389002 pt						

Glove and Mitten Manufacturing

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315992	Glove & mitten mfg	98	132	6 526	121 217	5 409	10 025	80 500	339 947	338 920	677 924	7 684
238100	Fabric gloves & mittens	N	80	4 467	84 328	3 729	6 909	57 078	237 855	201 690	438 853	4 532
315100	Leather gloves & mittens	N	52	2 059	36 889	1 680	3 116	23 422	102 092	137 230	239 071	3 152

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315992, GLOVE & MITTEN MFG												
United States	1	132	80	6 526	121 217	5 409	10 025	80 500	339 947	338 920	677 924	7 684
Mississippi	1	10	9	889	13 631	842	1 599	12 809	15 860	37 825	53 054	393
New York	5	17	6	432	7 151	367	606	4 748	14 562	14 763	29 660	419
North Carolina	4	14	9	966	17 469	833	1 556	13 962	32 756	36 586	70 515	1 149
Washington	-	4	3	125	2 268	108	210	1 854	2 049	5 125	7 395	28
Wisconsin	2	14	9	439	7 058	366	733	5 176	13 519	18 886	32 364	339

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315992, GLOVE & MITTEN MFG		315992, GLOVE & MITTEN MFG—Con.	
Companies ¹	number.. 98	Value added	\$1,000.. 339 947
All establishments	number.. 132	Total inventories, beginning of year	\$1,000.. 125 943
Establishments with 1 to 19 employees	number.. 52	Finished goods inventories, beginning of year	\$1,000.. 81 151
Establishments with 20 to 99 employees	number.. 62	Work-in-process inventories, beginning of year	\$1,000.. 16 865
Establishments with 100 employees or more	number.. 18	Materials and supplies inventories, beginning of year	\$1,000.. 27 927
All employees	number.. 6 526	Total inventories, end of year	\$1,000.. 132 362
Total compensation ²	\$1,000.. 145 499	Finished goods inventories, end of year	\$1,000.. 83 575
Annual payroll	\$1,000.. 121 217	Work-in-process inventories, end of year	\$1,000.. 15 384
Total fringe benefits	\$1,000.. 24 282	Materials and supplies inventories, end of year	\$1,000.. 33 403
Production workers, average for year	number.. 5 409	Gross book value of total assets at beginning of year	\$1,000.. 79 322
Production workers on March 12	number.. 5 510	Total capital expenditures (new and used)	\$1,000.. 7 684
Production workers on May 12	number.. 5 435	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 1 163
Production workers on August 12	number.. 5 344	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 6 521
Production workers on November 12	number.. 5 347	Total retirements ²	\$1,000.. 3 117
Production-worker hours	1,000.. 10 025	Gross book value of total assets at end of year	\$1,000.. 83 889
Production-worker wages	\$1,000.. 80 500	Total depreciation during year ²	\$1,000.. 6 044
Total cost of materials	\$1,000.. 338 920	Total rental payments ²	\$1,000.. 4 070
Cost of materials, parts, containers, etc., consumed	\$1,000.. 179 617	Buildings and other structures rental payments ²	\$1,000.. 2 111
Cost of resales	\$1,000.. 146 641	Machinery and equipment rental payments ²	\$1,000.. 1 959
Cost of fuels	\$1,000.. 1 482	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 635
Cost of purchased electricity	\$1,000.. 3 091	Response coverage ratio ⁴	percent.. 52
Cost of contract work	\$1,000.. 8 089	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 2 186
Quantity of electricity purchased for heat and power	1,000 kWh.. 49 517	Response coverage ratio ⁴	percent.. 52
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 883
Total value of shipments	\$1,000.. 677 924	Response coverage ratio ⁴	percent.. 52
Primary products value of shipments	\$1,000.. 430 427	Cost of purchased legal services ³	\$1,000.. 579
Secondary products value of shipments	\$1,000.. 29 179	Response coverage ratio ⁴	percent.. 52
Total miscellaneous receipts	\$1,000.. 218 318	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 23
Value of resales	\$1,000.. 213 110	Response coverage ratio ⁴	percent.. 52
Contract receipts	\$1,000.. 4 972	Cost of purchased advertising services ³	\$1,000.. 218
Other miscellaneous receipts	\$1,000.. 236	Response coverage ratio ⁴	percent.. 52
Primary products specialization ratio	percent.. 93	Cost of purchased software and other data processing services ³	\$1,000.. 77
Value of primary products shipments made in all industries	\$1,000.. 461 468	Response coverage ratio ⁴	percent.. 52
Value of primary products shipments made in this industry	\$1,000.. 430 427	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 220
Value of primary products shipments made in other industries	\$1,000.. 31 041	Response coverage ratio ⁴	percent.. 52
Coverage ratio	percent.. 93		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315992, GLOVE & MITTEN MFG												
All establishments	1	132	80	6 526	121 217	5 409	10 025	80 500	339 947	338 920	677 924	7 684
Establishments with 1 to 4 employees	9	25	—	54	843	50	87	736	1 630	1 666	3 363	51
Establishments with 5 to 9 employees	7	9	—	63	999	54	97	789	2 059	2 029	4 259	165
Establishments with 10 to 19 employees	4	18	—	240	3 693	208	346	2 990	8 006	7 460	15 526	156
Establishments with 20 to 49 employees	2	37	37	1 251	18 370	1 083	1 912	14 264	40 673	40 018	79 378	555
Establishments with 50 to 99 employees	1	25	25	1 684	27 858	1 420	2 725	20 172	57 185	62 575	120 228	1 412
Establishments with 100 to 249 employees	3	16	16	D	D	D	D	D	D	D	D	D
Establishments with 250 to 499 employees	—	2	2	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	35	—	200	2 894	184	320	2 523	5 807	5 863	11 914	184

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315992	Glove & mitten mfg	132	6 526	121 217	5 409	10 025	80 500	339 947	338 920	677 924	7 684
3159921	Gloves and mittens made from woven or purchased knit fabrics	42	3 297	67 292	2 692	5 061	43 055	212 223	164 354	375 709	4 042
3159923	Gloves and mittens made from leather-and-fabrics combinations ...	9	482	7 617	434	846	6 729	9 897	14 820	25 548	171
3159925	Gloves and mittens, all leather	31	1 931	34 898	1 566	2 908	21 806	96 417	131 643	227 583	3 031

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315992	Gloves and mittens	N	X	X	461 468	N	X	X	N
3159921	Gloves and mittens made from woven or purchased knit fabric @	N	X	X	310 970	N	X	X	204 747
31599210	Gloves and mittens made from woven or purchased knit fabric	N	X	X	310 970	N	X	X	N
3159921000	Gloves and mittens made from woven or purchased knit fabric \$	37	X	X	310 970	35	X	X	204 747
3159923	Gloves and mittens, leather-and-fabric combinations @	N	X	X	32 519	N	X	X	27 315
31599230	Gloves and mittens, leather-and-fabric combinations	N	X	X	32 519	N	X	X	N
3159923000	Gloves and mittens, leather-and-fabric combinations \$	23	X	X	32 519	26	X	X	27 315
3159925	Gloves and mittens, all leather @	N	X	X	92 744	N	X	X	N
31599250	Gloves and mittens, all leather	N	X	X	92 744	N	X	X	N
3159925000	Gloves and mittens, all leather \$	37	X	X	92 744	N	X	X	N
315992W	Gloves and mittens, nsk, total	N	X	X	25 235	N	X	X	N
315992WY	Gloves and mittens, nsk, total	N	X	X	25 235	N	X	X	N
315992WYWW	Gloves and mittens, nsk, for nonadministrative-record establishments	N	X	X	14 079	N	X	X	N
315992WYWY	Gloves and mittens, nsk, for administrative-record establishments	N	X	X	11 156	N	X	X	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3159921	GLOVES AND MITTENS MADE FROM WOVEN OR PURCHASED KNIT FABRIC @		
	United States	310 970	204 747
	Georgia	6 413	N
	Mississippi	56 377	40 545
	North Carolina	57 148	48 466
	Pennsylvania	7 118	6 218
	Wisconsin	3 061	N
3159923	GLOVES AND MITTENS, LEATHER-AND-FABRIC COMBINATIONS @		
	United States	32 519	27 315
	Mississippi	6 227	N
3159925	GLOVES AND MITTENS, ALL LEATHER @		
	United States	92 744	N
	Arkansas	18 899	N
	Illinois	22 287	N
	Wisconsin	10 184	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315992	GLOVE & MITTEN MFG				
31321023	Broadwoven fabrics (piece goods)mil sq yd...	^q 16.3	30 061	X	N
31324000	Knit fabrics	X	27 059	X	N
31311003	Yarn, all fibers	X	17 526	X	N
31611013	Leather	X	40 754	X	N
00970099	All other materials and components, parts, containers, and supplies	X	38 570	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	25 647	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315992 GLOVE AND MITTEN MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew gloves (except rubber, metal, and athletic gloves) and mittens from purchased fabric, fur, leather, or from combinations of fabric, fur, or leather. Jobbers, who perform entrepreneurial functions involved in glove and mitten manufacture, including buying raw materials, designing and preparing samples,

arranging for gloves and mittens to be made from their materials, and marketing finished gloves and mittens, are included.

The data published with NAICS code 315992 include the following SIC industries:

2381 Fabric gloves and mittens
3151 Leather gloves and mittens

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F.

Footnotes for Products Statistics and Materials Consumed by Kind

Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3159921	For additional detail, see Current Industrial Report MA315D, Gloves and Mittens.
\$ 3159921000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3159923	For additional detail, see Current Industrial Report MA315D, Gloves and Mittens.
\$ 3159923000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.
@3159925	For additional detail, see Current Industrial Report MA315D, Gloves and Mittens.
\$ 3159925000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
315111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419	3151921	22541	22541	315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt	2251424 pt	2251415	3151921110	2254111	2254111	315211WYWW pt ...	2325902	2325902
3151111191 pt	2251424 pt	2251423	3151921120	2254113	2254113	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVW pt	2251400	2251400	3151921YVW	2254100	2254100	315211WYWW pt ...	2326902	2326902
3151111YVW pt	2252500 pt	2252500 pt	3151923	22544	22544	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113111	2251612	2251612	3151923120	2254413	2254413	315211WYWW pt ...	2331002 pt	2331002 pt
3151113221	2251614	2251614	3151923YVW	2254400	2254400	315211WYWW pt ...	2334002 pt	2334002 pt
3151113231	2251616	2251616	3151927	22590 pt	22590 pt	315211WYWW pt ...	2335002 pt	2335002 pt
3151113341	2251615	2251615	3151927110	2259030	2259030	315211WYWW pt ...	2335002 pt	2335002 pt
3151113351	2251617	2251617	3151927120	2259040	2259040	3152121	23319 pt	23319 pt
3151113391	2251620	2251619	3151927YVW	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151113YVW	2251600	2251600	315192W pt	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115	22518	22518	315192W pt	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115121	2251814	2251814	315192WYVW pt...	2254000	2254000	3152123100 pt	2335900	2335900
3151115131	2251817	2251817	315192WYVW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
3151115YVW	2251800	2251800	315192WYVW pt...	2254002	2254002	3152125	23379 pt	23379 pt
315111W pt.....	22510	22510	315192WYVW pt...	2259002 pt	2259002 pt	3152125100	2337900	2337900
315111W pt.....	22520 pt	22520 pt	3152111	23119 pt	23119 pt	3152127 pt.....	23399 pt	23399 pt
315111WYVW pt.....	2251000	2251000	3152111100	2311900	2311900	3152127 pt.....	23699 pt	23699 pt
315111WYVW pt.....	2252000 pt	2252000 pt	3152111100	2311900	2311900	3152127100 pt	2339900	2339900
315111WYVW pt.....	2251002	2251002	3152113	23219 pt	23219 pt	3152127100 pt	2369900	2369900
315111WYVW pt.....	2252002 pt	2252002 pt	3152113100	2321900	2321900	3152127	23419 pt	23419 pt
3151191	22522	22522	31521115	23229	23229	3152127100 pt	2341901	2341901
3151191111	2252223	2252223	3152115100	2322900	2322900	3152127100 pt	2341903	2341903
3151191221	2252225	2252225	3152117	23259 pt	23259 pt	3152129	2341900	2341900
3151191331	2252233	2252233	3152117100	2325900	2325900	3152129100 pt	2341900	2341900
3151191441	2252235	2252235	3152119	23269 pt	23269 pt	3152129100 pt	2341900	2341900
3151191551	2252243	2252243	3152119100	2326900	2326900	315212B	23429	23429
3151191561	2252245	2252245	315211B	23299 pt	23299 pt	315212B100	2342900	2342900
3151191591	2252287	2252287	315211B100	2329900	2329900	315212D	23849 pt	23849 pt
3151191YVW	2252200	2252200	315211D	23849 pt	23849 pt	315212D100 pt	2384995	2384995
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3151193111	2252516	2252515	315211D100 pt	2384900 pt	2384900 pt	315212F	23859 pt	23859 pt
3151193121	2252501	2252501	315211F	23859 pt	23859 pt	315212F100 pt	2385920	2385920
3151193131	2252503	2252503	315211F100 pt	2385910	2385910	315212F100 pt	2385900 pt	2385900 pt
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3151193261	2252533	2252531	315211H100 pt	2395900 pt	2395800 pt	315212H100 pt	2395994	2395833
3151193271	2252551	2252551	315211H100 pt	2395993	2395811	315212J	23899	23899
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3151195131	2252651	2252651	315211W pt	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151195YVW	2252600	2252600	315211W pt	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
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3151913	22535	22535	315211WYVW pt...	2310000 pt	2310000 pt	315212W pt.....	23690 pt	23690 pt
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3152910YVW pt...	2369000 pt.....	2369000 pt	3159915.....	23533.....	23533	315999C111 pt....	2399091.....	2399098 pt
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3152910YVW pt...	2369300 pt.....	2369300 pt	3159915121.....	2353303.....	2353303	315999CVVW pt....	2396100.....	2396100
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3152925YVW.....	2386000 pt.....	2386000 pt	315992W pt.....	23810.....	23810	315999W pt.....	23960 pt.....	23960 pt
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315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	23990 pt.....	23990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	3151000 pt.....	3151000 pt	315999W pt.....	56990 pt.....	56990 pt
315292WYVW pt...	2386000 pt.....	2386000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt....	2339000 pt.....	2339000 pt
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3152991.....	23293 pt.....	23293 pt	3159930111.....	2323021.....	2323021	315999WYVW pt....	2389000 pt.....	2389000 pt
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3152995111.....	2389081.....	2389081	3159930YVW.....	2323002.....	2323002	315999WYVW pt....	2385002 pt.....	2385002 pt
3152995121.....	2389091.....	2389091	3159991.....	23397 pt.....	23397 pt	315999WYVW pt....	2387002.....	2387002
3152995131.....	2389098.....	2389098	3159991100.....	2339770.....	2339770	315999WYVW pt....	2389002 pt.....	2389002 pt
3152995YVW.....	2389000 pt.....	2389000 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt....	2396002 pt.....	2396002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993100.....	2385190.....	2385190	315999WYVW pt....	2399002 pt.....	2399002 pt
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Men's and Boys' Neckwear Manufacturing

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673
Service Sector Statistics Division 301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Compan-ies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315993	Men's & boys' neckwear mfg ..	117	122	4 914	116 787	3 801	6 314	61 571	330 049	269 203	597 171	3 611
232300	Men's & boys' neckwear	N	122	4 914	116 787	3 801	6 314	61 571	330 049	269 203	597 171	3 611

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi-tures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315993, MEN'S & BOYS' NECKWEAR MFG												
United States	2	122	51	4 914	116 787	3 801	6 314	61 571	330 049	269 203	597 171	3 611
California	2	17	6	1 119	23 776	967	1 659	16 093	87 623	69 324	153 966	1 118
New Jersey	1	7	2	151	3 362	141	303	2 791	5 067	2 109	7 177	163
New York	1	53	21	1 599	38 799	1 270	2 337	21 052	107 673	87 885	197 543	940
North Carolina	-	8	5	328	10 260	228	361	3 708	22 944	36 348	59 825	192

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315993, MEN'S & BOYS' NECKWEAR MFG		315993, MEN'S & BOYS' NECKWEAR MFG—Con.	
Companies ¹	number.. 117	Value added	\$1,000.. 330 049
All establishments	number.. 122	Total inventories, beginning of year	\$1,000.. 88 901
Establishments with 1 to 19 employees	number.. 71	Finished goods inventories, beginning of year	\$1,000.. 49 062
Establishments with 20 to 99 employees	number.. 37	Work-in-process inventories, beginning of year	\$1,000.. 12 069
Establishments with 100 employees or more	number.. 14	Materials and supplies inventories, beginning of year	\$1,000.. 27 770
All employees	number.. 4 914	Total inventories, end of year	\$1,000.. 90 748
Total compensation ²	\$1,000.. 133 624	Finished goods inventories, end of year	\$1,000.. 51 608
Annual payroll	\$1,000.. 116 787	Work-in-process inventories, end of year	\$1,000.. 11 604
Total fringe benefits	\$1,000.. 16 837	Materials and supplies inventories, end of year	\$1,000.. 27 536
Production workers, average for year	number.. 3 801	Gross book value of total assets at beginning of year	\$1,000.. 52 628
Production workers on March 15	number.. 3 793	Total capital expenditures (new and used)	\$1,000.. 3 611
Production workers on May 15	number.. 3 824	Capital expenditures for buildings and other structures	
Production workers on August 15	number.. 3 811	(new and used)	\$1,000.. 400
Production workers on November 15	number.. 3 776	Capital expenditures for machinery and equipment (new	
Production-worker hours	1,000.. 6 314	and used)	\$1,000.. 3 211
Production-worker wages	\$1,000.. 61 571	Total retirements ²	\$1,000.. 737
Total cost of materials	\$1,000.. 269 203	Gross book value of total assets at end of year	\$1,000.. 55 502
Cost of materials, parts, containers, etc., consumed	\$1,000.. 219 209	Total depreciation during year ²	\$1,000.. 4 742
Cost of resales	\$1,000.. 21 223	Total rental payments ²	\$1,000.. 9 592
Cost of fuels	\$1,000.. 804	Buildings and other structures rental payments ²	\$1,000.. 6 059
Cost of purchased electricity	\$1,000.. 2 088	Machinery and equipment rental payments ²	\$1,000.. 3 533
Cost of contract work	\$1,000.. 25 879	Cost of purchased services for the repair of buildings and other	
Quantity of electricity purchased for heat and power	1,000 kWh.. 28 592	structures ³	\$1,000.. 223
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -	Response coverage ratio ⁴	percent.. 64
Total value of shipments	\$1,000.. 597 171	Cost of purchased services for the repair of machinery and	
Primary products value of shipments	\$1,000.. 524 240	equipment ³	\$1,000.. 813
Secondary products value of shipments	\$1,000.. 24 751	Response coverage ratio ⁴	percent.. 64
Total miscellaneous receipts	\$1,000.. 48 180	Cost of purchased communications services ³	\$1,000.. 1 014
Value of resales	\$1,000.. 31 122	Response coverage ratio ⁴	percent.. 64
Contract receipts	\$1,000.. D	Cost of purchased legal services ³	\$1,000.. 252
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 64
Primary products specialization ratio	percent.. 95	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 606
Value of primary products shipments made in all industries	\$1,000.. 537 312	Response coverage ratio ⁴	percent.. 64
Value of primary products shipments made in this industry	\$1,000.. 524 240	Cost of purchased advertising services ³	\$1,000.. 2 500
Value of primary products shipments made in other		Response coverage ratio ⁴	percent.. 64
industries	\$1,000.. 13 072	Cost of purchased software and other data processing	
Coverage ratio	percent.. 97	services ³	\$1,000.. 1 320
		Response coverage ratio ⁴	percent.. 64
		Cost of purchased refuse removal (including hazardous waste)	
		services ³	\$1,000.. 84
		Response coverage ratio ⁴	percent.. 64

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315993, MEN'S & BOYS' NECKWEAR MFG												
All establishments	2	122	51	4 914	116 787	3 801	6 314	61 571	330 049	269 203	597 171	3 611
Establishments with 1 to 4 employees	8	36	—	77	1 932	67	93	1 041	4 628	3 669	8 314	44
Establishments with 5 to 9 employees	5	13	—	80	1 821	66	94	1 023	6 684	3 640	10 465	64
Establishments with 10 to 19 employees	2	22	—	304	6 959	225	349	3 608	28 955	15 342	44 803	100
Establishments with 20 to 49 employees	2	25	25	779	17 216	606	1 006	9 266	30 697	22 789	53 892	347
Establishments with 50 to 99 employees	3	12	12	778	16 412	576	924	9 036	38 303	31 520	69 096	364
Establishments with 100 to 249 employees	—	11	11	1 636	42 448	1 235	2 116	20 280	117 701	114 221	233 168	1 398
Establishments with 250 to 499 employees	9	2	2	D	D	D	D	D	D	D	D	D
Establishments with 500 to 999 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—	—
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	41	—	188	3 996	158	212	2 157	10 752	8 145	18 939	96

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315993	Men's & boys' neckwear mfg	122	4 914	116 787	3 801	6 314	61 571	330 049	269 203	597 171	3 611

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315993	Men's and boys' neckwear	N	X	X	537 312	N	X	X	543 645
3159930	Men's and boys' neckwear	N	X	X	537 312	N	X	X	543 645
31599301	Men's and boys' neckwear, made from woven fabrics, silk and polyester	N	X	X	497 390	N	X	X	N
3159930111	Neckties made from woven fabrics (including prints), all silk	59	X	S	440 175	53	X	N	335 655
3159930121	Neckties made from woven fabrics (including prints), all polyester	21	X	P9	809.0 57 215	39	X	N	73 092
31599302	Men's and boys' neckwear, all other except silk and polyester made from woven fabrics	N	X	X	20 609	N	X	X	N
3159930231	Neckties made from woven fabrics (including prints), all other fabrics (including blends)	11	X	2	705.3 10 375	27	X	N	48 219
3159930241	All other men's and boys' neckwear (including leather neckties and knit or woven mufflers and scarves)	5	X	3	375.5 10 234	9	X	N	8 560
3159930Y	Men's and boys' neckwear, nsk	N	X	X	19 313	N	X	X	N
3159930YWV	Men's and boys' neckwear, nsk, for non-administrative record establishments	N	X	X	974	N	X	X	66 969
3159930YWY	Men's and boys' neckwear, nsk, for administrative record establishments	N	X	X	18 339	N	X	X	11 150

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Not applicable for this report]

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315993	MEN'S & BOYS' NECKWEAR MFG				
31321023	Broadwoven fabrics (piece goods)	X	153 166	X	150 039
31322103	Narrow fabrics (12 inches or less in width)	X	39 289	X	36 088
31324000	Knit fabrics	X	D	X	2 820
31311003	Yarn, all fibers	X	D	X	D
31611001	Finished leather	X	D	X	D
33999301	Buttons, zippers, and slide fasteners	X	583	X	D
00970099	All other materials and components, parts, containers, and supplies	X	11 659	X	18 864
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	11 732	X	31 495

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315993 MEN'S AND BOYS' NECKWEAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew neckties, scarves, and mufflers from purchased fabric, leather, or from combinations of leather and fabric. Men's and boys' neckwear jobbers, who perform entrepreneurial

functions involved in neckwear manufacture, including buying raw materials, designing and preparing samples, arranging for neckwear to be made from their materials, and marketing finished neckwear, are included.

The data published with NAICS code 315993 include the following SIC industry:

2323 Men's and boys' neckwear

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWWY pt ...	2321902	2321902
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt ...	2253000	2253000	315211WYWWY pt ...	2322002 pt	2322002 pt
315111111	2251417	2251417	315191WYWW pt ...	2259000 pt	2259000 pt	315211WYWWY pt ...	2325002 pt	2325002 pt
315111121	2252513	2252513	315191WYWWY pt ..	2253002	2253002	315211WYWWY pt ...	2325902	2325902
315111131	2251413	2251413	315191WYWWY pt ...	2259002 pt	2259002 pt	315211WYWWY pt ...	2326002 pt	2326002 pt
315111141	2251419	2251419				315211WYWWY pt ...	2326902	2326902
315111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWWY pt ...	2329002 pt	2329002 pt
315111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWWY pt ...	2329902	2329902
3151111YWW pt	2251400	2251400	3151921120	2254113	2254113	315211WYWWY pt ...	2341002 pt	2341002 pt
3151111YVW pt	2252500 pt	2252500 pt	3151921YVW	2254100	2254100	315211WYWWY pt ...	2384002 pt	2384002 pt
						315211WYWWY pt ...	2385002 pt	2385002 pt
						315211WYWWY pt ...	2395002 pt	2395002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	3152121	23319 pt	23319 pt
3151113221	2251614	2251614	3151923120	2254413	2254413	3152121100	2331900	2331900
3151113231	2251616	2251616	3151923YVW	2254400	2254400			
3151113341	2251615	2251615						
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	3152123 pt.....	23359 pt	23359 pt
3151113391	2251620	2251619	3151927110	2259030	2259030 pt	3152123 pt.....	23619 pt	23619 pt
3151113YVW	2251600	2251600	3151927120	2259040	2259040 pt	3152123100 pt	2335900	2335900
			3151927YVW	2259000 pt	2259030 pt	3152123100 pt	2361900	2361900
3151115	22518	22518	315192W pt.....	22540	22540	3152125	23379 pt	23379 pt
3151115121	2251814	2251814	315192W pt.....	22590 pt	22590 pt	3152125100	2337900	2337900
3151115131	2251817	2251817	315192WYVW pt	2254000	2254000			
3151115YVW	2251800	2251800	315192WYVW pt	2259000 pt	2259000 pt	3152127 pt.....	23399 pt	23399 pt
			315192WYVW pt	2254002	2254002	3152127 pt.....	23699 pt	23699 pt
315111W pt.....	22510	22510	315192WYVW pt	2259002 pt	2259002 pt	3152127 pt.....	23990 pt	23990 pt
315111W pt.....	22520 pt	22520 pt				3152127100 pt	2369900	2369900
315111WYVW pt.....	2251000	2251000	3152111	23119 pt	23119 pt	3152127100 pt	2369900	2369900
315111WYVW pt.....	2252000 pt	2252000 pt	3152111100	2311900	2311900			
315111WYVW pt.....	2251002	2251002				3152129	23419 pt	23419 pt
315111WYVW pt.....	2252002 pt	2252002 pt	3152113	23219 pt	23219 pt	3152129100 pt	2341900 pt	2341900 pt
			3152113100	2321900	2321900	3152129100 pt	2341900 pt	2341900 pt
3151191	22522	22522	3152115 pt.....	23229	23229	315212B	23429	23429
3151191111	2252223	2252223				315212B100	2342900	2342900
3151191221	2252225	2252225	3152115 pt.....	23419 pt	23419 pt			
3151191331	2252233	2252233	3152115100 pt	2322900	2322900	315212D	23849 pt	93000 pt
3151191441	2252235	2252235	3152115100 pt	2341901	2341900 pt	315212D100 pt	2384995	9300000 pt
3151191551	2252243	2252243	3152115100 pt	2341900 pt	2341900 pt	315212D100 pt	2384900 pt	9300000 pt
3151191561	2252245	2252245						
3151191591	2252287	2252287	3152117	23259 pt	23259 pt	315212F	23859 pt	23859 pt
3151191YVW	2252200	2252200	3152117100	2325900	2325900	315212F100 pt	2385920	2385900 pt
						315212F100 pt	2385900 pt	2385900 pt
3151193	22525 pt	22525 pt	3152119	23269 pt	23269 pt			
3151193111	2252516	2252515	3152119100	2326900	2326900	315212H	23959 pt	23958 pt
3151193121	2252501	2252501				315212H100 pt	2395900 pt	2395800 pt
3151193131	2252503	2252503	315211B	23299 pt	23299 pt	315212H100 pt	2395994	2395833
3151193241	2252521	2252521	315211B100	2329900	2329900			
3151193251	2252527	2252527				315212J	23899	93000 pt
3151193261	2252533	2252531	315211D	23849 pt	93000 pt	315212J100 pt	2389993	9300000 pt
3151193371	2252551	2252551	315211D100 pt	2384994	9300000 pt	315212J100 pt	2389900	9300000 pt
3151193381	2252557	2252557	315211D100 pt	2384900 pt	9300000 pt			
3151193391	2252561	2252561	315211F	23859 pt	23859 pt	315212W pt.....	23310 pt	23310 pt
31511933B1	2252588	2252581	315211F100 pt	2385910	2385900 pt	315212W pt.....	23319 pt	23319 pt
3151193YVW	2252500 pt	2252500 pt	315211F100 pt	2385900 pt	2385900 pt	315212W pt.....	23350 pt	23350 pt
						315212W pt.....	23350 pt	23350 pt
3151195	22526	22526	315211H	23959 pt	23958 pt	315212W pt.....	23359 pt	23359 pt
3151195111	2252625	2252625	315211H100 pt	2395900 pt	2395800 pt	315212W pt.....	23370 pt	23370 pt
3151195121	2252642	2252642	315211H100 pt	2395993	2395811	315212W pt.....	23379 pt	23379 pt
3151195131	2252651	2252651				315212W pt.....	23390 pt	23390 pt
3151195YVW	2252600	2252600	315211W pt.....	23110 pt	23110 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23119 pt	23119 pt	315212W pt.....	23410 pt	23410 pt
315119W	22520 pt	22520 pt	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23419 pt	23419 pt
315119WYVW	2252000 pt	2252000 pt	315211W pt.....	23219 pt	23219 pt	315212W pt.....	23420 pt	23420 pt
315119WYVW	2252002 pt	2252002 pt				315212W pt.....	23610 pt	23610 pt
			315211W pt.....	23220 pt	23220 pt	315212W pt.....	23619 pt	23619 pt
3151911	22534	22534	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23690 pt	23690 pt
3151911100	2253400	2253400	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23699 pt	23699 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23840 pt	23840 pt
3151913	22535	22535	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23850 pt	23850 pt
3151913100	2253500	2253500				315212W pt.....	23890 pt	23890 pt
			315211W pt.....	23290 pt	23290 pt	315212W pt.....	23950 pt	23950 pt
3151915	22536	22536	315211W pt.....	23299 pt	23299 pt	315212WYVWV pt	2331000 pt	2331000 pt
3151915100	2253600	2253600	315211W pt.....	23410 pt	23410 pt	315212WYVWV pt	2335000 pt	2335000 pt
			315211W pt.....	23410 pt	23410 pt	315212WYVWV pt	2337000 pt	2337000 pt
3151917	2253A	2253A	315211W pt.....	23410 pt	23410 pt	315212WYVWV pt	2339000 pt	2339000 pt
3151917100	2253A00	2253A00	315211W pt.....	23840 pt	23840 pt	315212WYVWV pt	2341000 pt	2341000 pt
			315211W pt.....	23840 pt	23840 pt	315212WYVWV pt	2342000 pt	2342000 pt
3151919	2253B	2253B	315211W pt.....	23850 pt	23850 pt	315212WYVWV pt	2361000 pt	2361000 pt
3151919100	2253B00	2253B00	315211W pt.....	23950 pt	23950 pt	315212WYVWV pt	2369000 pt	2369000 pt
						315212WYVWV pt	2384000 pt	2384000 pt
315191A	2253C	2253C	315211W pt.....	23950 pt	23950 pt	315212WYVWV pt	2385000 pt	2385000 pt
315191A100	2253C00	2253C00	315211W pt.....	2310000 pt	2310000 pt	315212WYVWV pt	2389000 pt	2389000 pt
315191C	2253D	2253D	315211WYVWV pt	2320000 pt	2320000 pt	315212WYVWV pt	2395000 pt	2395000 pt
315191C110	2253D01	2253D01	315211WYVWV pt	2325000 pt	2325000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191C120	2253D05	2253D05	315211WYVWV pt	2326000 pt	2326000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191C130	2253D09	2253D09	315211WYVWV pt	2329000 pt	2329000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191CYVW	2253D00	2253D00	315211WYVWV pt	2340000 pt	2340000 pt	315212WYVWV pt	2399000 pt	2399000 pt
			315211WYVWV pt	2341000 pt	2341000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191E	2253E	2253E	315211WYVWV pt	2341000 pt	2341000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191E100	2253E00	2253E00	315211WYVWV pt	2341000 pt	2341000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191EYVW	2253E02	2253E02	315211WYVWV pt	2341000 pt	2341000 pt	315212WYVWV pt	2399000 pt	2399000 pt
			315211WYVWV pt	2341000 pt	2341000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191G	22590 pt	22590 pt	315211WYVWV pt	2385000 pt	2385000 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191G100	2259020	2259020	315211WYVWV pt	2385000 pt	2385000 pt	315212WYVWV pt	2399000 pt	2399000 pt
			315211WYVWV pt	2311002 pt	2311002 pt	315212WYVWV pt	2399000 pt	2399000 pt
315191W pt.....	22530	22530	315211WYVWV pt	2311902	2311902	315212WYVWV pt	2399000 pt	2399000

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212WYWW pt ...	2335002 pt	2335002 pt	315224W pt	23250 pt	23250 pt	3152330 pt	23353	23353
315212WYWW pt ...	2335902 pt	2335902 pt	315224W pt	23690 pt	23690 pt	3152330 pt	23610 pt	23610 pt
315212WYWW pt ...	2337002 pt	2337002 pt	315224WYWW pt ...	2325000 pt	2325000 pt	3152330 pt	23615 pt	23615 pt
315212WYWW pt ...	2337902 pt	2337902 pt	315224WYWW pt ...	2369000 pt	2369000 pt	3152330010	2335300 pt	2335300 pt
315212WYWW pt ...	2339002 pt	2339002 pt	315224WYWW pt ...	2325002 pt	2325002 pt	3152330020	2361501	2361500 pt
315212WYWW pt ...	2339902 pt	2339902 pt	315224WYWW pt ...	2369002 pt	2369002 pt	3152330YWW pt ...	2335000 pt	2335000 pt
315212WYWW pt ...	2341002 pt	2341002 pt	3152251	23261	23261	3152330YWW pt ...	2335300 pt	2335300 pt
315212WYWW pt ...	2341902 pt	2341902 pt	3152251000	2326100	2326100	3152330YWW pt ...	2361000 pt	2361000 pt
315212WYWW pt ...	2342002 pt	2342002 pt	3152253	23262	23262	3152330YWW pt ...	2361500 pt	2361500 pt
315212WYWW pt ...	2361002 pt	2361002 pt	3152253000	2326200	2326200	3152330YWW pt ...	2335002 pt	2335002 pt
315212WYWW pt ...	2361902	2361902	3152255	23260	23260	3152330YWW pt ...	2361002 pt	2361002 pt
315212WYWW pt ...	2369002 pt	2369002 pt	3152255W	23260 pt	23260 pt	3152341 pt	23371	23371
315212WYWW pt ...	2369902	2369902	3152255YWW	2326000 pt	2326000 pt	3152341010	2337100 pt	2337100 pt
315212WYWW pt ...	2384002 pt	2384002 pt	3152255YWW	2326002 pt	2326002 pt	3152341020	2369201	2369200 pt
315212WYWW pt ...	2385002 pt	2385002 pt	3152281	23291	23291	3152341YWW pt ...	2337100 pt	2337100 pt
315212WYWW pt ...	2389002 pt	2389002 pt	3152281000	2329100	2329100	3152341YWW pt ...	2369200 pt	2369200 pt
315212WYWW pt ...	2395002 pt	2395002 pt	3152283 pt	23293 pt	23293 pt	3152343	23372	23372
3152211 pt	23221	23221	3152283010	23693 pt	23693 pt	3152343000	2337200	2337200
3152211 pt	23412 pt	23412 pt	3152283010	2329310	2329310	3152345 pt	23374	23374
3152211010	2322100 pt	2322100 pt	3152283020	2369395	2369395	3152345 pt	23693 pt	23693 pt
3152211020	2341203	2341203	3152283130	2329360	2329360	3152345010	2337410	2337410
3152211YVW pt ...	2322100 pt	2322100 pt	3152283140	2369372	2369372	3152345030	2369394	2369393 pt
3152211YVW pt ...	2341200 pt	2341200 pt	3152283150	2329380	2329380	3152345120	2337420	2337420
3152213 pt	23222	23222	3152283YVW pt ...	2329300	2329300	3152345YVW pt ...	2337400	2337400
3152213 pt	23413 pt	23413 pt	3152283YVW pt ...	2369300 pt	2369300 pt	3152345YVW pt ...	2369300 pt	2369300 pt
3152213010	2322200 pt	2322200 pt	3152285	23851 pt	23851 pt	3152347	23851 pt	23851 pt
3152213020	2341303	2341303	3152285100	2385193	2385193	3152347000	2385142	2385140 pt
3152213YVW pt ...	2322200 pt	2322200 pt	3152288W pt	23290 pt	23290 pt	315234W pt	23370 pt	23370 pt
3152213YVW pt ...	2341300 pt	2341300 pt	3152288W pt	23690 pt	23690 pt	315234W pt	23690 pt	23690 pt
3152215 pt	23693	23693	3152288W pt	23850 pt	23850 pt	315234W pt	23850 pt	23850 pt
3152215 pt	23840 pt	23840 pt	3152288YWW pt ...	2329000 pt	2329000 pt	315234WYVW pt ...	2337000 pt	2337000 pt
3152215000 pt ...	2369382	2369382	3152288YWW pt ...	2369000 pt	2369000 pt	315234WYVW pt ...	2369000 pt	2369000 pt
3152215000 pt ...	2384011	2384011	3152288YWW pt ...	2385000 pt	2385000 pt	315234WYVW pt ...	2385000 pt	2385000 pt
315221W pt	23220 pt	23220 pt	3152288YVW pt ...	2329002 pt	2329002 pt	315234WYVW pt ...	2337002 pt	2337002 pt
315221W pt	23410 pt	23410 pt	3152288YVW pt ...	2385002 pt	2385002 pt	315234WYVW pt ...	2369002 pt	2369002 pt
315221W pt	23690 pt	23690 pt	3152311	23412 pt	23412 pt	315234WYVW pt ...	2385002 pt	2385002 pt
315221WYVW pt ...	23840 pt	23840 pt	3152311010	2341201	2341201	3152391	23392	23392
315221WYVW pt ...	2322000 pt	2322000 pt	3152311020	2341202	2341202	3152391000	2339200	2339200
315221WYVW pt ...	2341000 pt	2341000 pt	3152311020	2341202	2341202	3152393	23394	23394
315221WYVW pt ...	2369000 pt	2369000 pt	3152311YVW	2341200 pt	2341200 pt	3152393000	2339400	2339400
315221WYVW pt ...	2384000 pt	2384000 pt	3152313	23413 pt	23413 pt	3152395 pt	23395	23395
315221WYVW pt ...	2322002 pt	2322002 pt	3152313010	2341301	2341301	3152395 pt	23693 pt	23693 pt
315221WYVW pt ...	2341002 pt	2341002 pt	3152313020	2341302	2341302	3152395010	2339500 pt	2339500 pt
315221WYVW pt ...	2369002 pt	2369002 pt	3152313YVW	2341300 pt	2341300 pt	3152395020	2369341	2369340 pt
315221WYVW pt ...	2384002 pt	2384002 pt	3152315	23421	23421	3152395YVW pt ...	2339500 pt	2339500 pt
3152221 pt	23115	23115	3152315000	2342100	2342100	3152395YVW pt ...	2369300 pt	2369300 pt
3152221 pt	23692 pt	23692 pt	3152317 pt	23422	23422	3152397 pt	23397 pt	23397 pt
3152221010	2311500	2311500	3152317010	2342210	2342210	3152397 pt	23693 pt	23693 pt
3152221020	2369202	2369202	3152317121	2342281	2342281	3152397020	2339760	2339760
3152221YVW	2369200 pt	2369200 pt	3152317131	2389035	2389035	3152397110	2339730	2339730
3152223	2316200	2316200	3152317151	2389071	2389071	3152397130	2339780	2339780
3152223	23117	23117	3152317YVW pt ...	2342200	2342200	3152397140	2369371	2369370 pt
3152225000	2311700	2311700	3152317YVW pt ...	2389000 pt	2389000 pt	3152397YVW pt ...	2339700	2339700
3152227	23851 pt	23851 pt	3152319	23693 pt	23693 pt	3152397YVW pt ...	2369300 pt	2369300 pt
3152227000 pt ...	2385100 pt	2385100 pt	3152319000 pt ...	23840 pt	23840 pt	3152399	23851 pt	23851 pt
3152227000 pt ...	2385141	2385141	3152319000 pt ...	2384021	2384021	3152399100	2385194	2385198 pt
315222W pt	23110 pt	23110 pt	315231W pt	23410 pt	23410 pt	315239W pt	23390 pt	23390 pt
315222W pt	23690 pt	23690 pt	315231W pt	23420 pt	23420 pt	315239W pt	23690 pt	23690 pt
315222W pt	23850 pt	23850 pt	315231W pt	23690 pt	23690 pt	315239W pt	23850 pt	23850 pt
315222WYVW pt ...	2311000 pt	2311000 pt	315231W pt	23840 pt	23840 pt	315239WYVW pt ...	2339000 pt	2339000 pt
315222WYVW pt ...	2369000 pt	2369000 pt	315231W pt	23840 pt	23840 pt	315239WYVW pt ...	2369000 pt	2369000 pt
315222WYVW pt ...	2385000 pt	2385000 pt	315231W pt	23890 pt	23890 pt	315239WYVW pt ...	2385000 pt	2385000 pt
315222WYVW pt ...	2311002 pt	2311002 pt	315231WYVW pt ...	2341000 pt	2341000 pt	315239WYVW pt ...	2339002 pt	2339002 pt
315222WYVW pt ...	2369002 pt	2369002 pt	315231WYVW pt ...	2342000 pt	2342000 pt	315239WYVW pt ...	2369002 pt	2369002 pt
315222WYVW pt ...	2385002 pt	2385002 pt	315231WYVW pt ...	2369000 pt	2369000 pt	315239WYVW pt ...	2385002 pt	2385002 pt
3152231 pt	23213	23213	315231WYVW pt ...	2384000 pt	2384000 pt	3152910 pt	23410 pt	23410 pt
3152231 pt	23613 pt	23613 pt	315231WYVW pt ...	2389000 pt	2389000 pt	3152910 pt	23412 pt	23412 pt
3152231010	2321300 pt	2321300 pt	315231WYVW pt ...	2341002 pt	2341002 pt	3152910 pt	23413 pt	23413 pt
3152231020	2361302	2361302	315231WYVW pt ...	2342002 pt	2342002 pt	3152910 pt	23610 pt	23610 pt
3152231YVW pt ...	2321300 pt	2321300 pt	315231WYVW pt ...	2369002 pt	2369002 pt	3152910 pt	23613 pt	23613 pt
3152231YVW pt ...	2361300 pt	2361300 pt	315231WYVW pt ...	2384002 pt	2384002 pt	3152910 pt	23614 pt	23614 pt
3152233 pt	23216	23216	315231WYVW pt ...	2389002 pt	2389002 pt	3152910 pt	23615 pt	23615 pt
3152233 pt	23614 pt	23614 pt	3152321 pt	23313	23313	3152910 pt	23692 pt	23692 pt
3152233010	2321600 pt	2321600 pt	3152321 pt	23613 pt	23613 pt	3152910 pt	23693 pt	23693 pt
3152233020	2361402	2361402	3152321010	2331300	2331300	3152910 pt	23850 pt	23850 pt
3152233YVW pt ...	2321600 pt	2321600 pt	3152321120	2361301	2361301	3152910 pt	23690 pt	23690 pt
3152233YVW pt ...	2361400 pt	2361400 pt	3152321YVW	2361300 pt	2361300 pt	3152910 pt	23692 pt	23692 pt
315223W pt	23210 pt	23210 pt	3152323 pt	23314	23314	3152910 pt	23693 pt	23693 pt
315223W pt	23610 pt	23610 pt	3152323 pt	23614 pt	23614 pt	3152910 pt	23850 pt	23850 pt
315223WYVW pt ...	2321000 pt	2321000 pt	3152323010	2331400 pt	2331400 pt	3152910 pt	23851 pt	23851 pt
315223WYVW pt ...	2361000 pt	2361000 pt	3152323020	2361401	2361401	31529101010	2341204	2341200 pt
315223WYVW pt ...	2321002 pt	2321002 pt	3152323YVW pt ...	2361400 pt	2361400 pt	3152910120	2341304	2341300 pt
315223WYVW pt ...	2361002 pt	2361002 pt	3152323YVW pt ...	2384000 pt	2384000 pt	3152910230	2361303	2361300 pt
3152241 pt	23251	23251	3152323YVW pt ...	2389000 pt	2389000 pt	3152910240	2361403	2361400 pt
3152241 pt	23693 pt	23693 pt	3152323YVW pt ...	2341002 pt	2341002 pt	3152910250	2361502	2361500 pt
3152241010	2325100 pt	2325100 pt	3152323YVW pt ...	2342002 pt	2342002 pt	3152910260	2362003	2362000 pt
3152241020	2369342	2369342	3152323YVW pt ...	2369002 pt	2369002 pt	3152910270	2369343	2369340 pt
3152241YVW pt ...	2325100 pt	2325100 pt	3152323YVW pt ...	2384002 pt ..				

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3152910YVW pt ...	2341200 pt	2341200 pt	3159911	23531	23531	3159995	23871	23871
3152910YVW pt ...	2341300 pt	2341300 pt	3159911111	2353101	2353101	3159995111	2387113	2387113
3152910YVW pt ...	2361000 pt	2361000 pt	3159911121	2353103	2353103	3159995121	2387115	2387115
3152910YVW pt ...	2361300 pt	2361300 pt	3159911131	2353105	2353105	3159995131	2387153	2387153
3152910YVW pt ...	2361400 pt	2361400 pt	3159911141	2353109	2353109	3159995141	2387155	2387155
3152910YVW pt ...	2361500 pt	2361500 pt	3159911YVW	2353100	2353100	3159995YVW	2387100	2387100
3152910YVW pt ...	2369000 pt	2369000 pt	3159913	23532	23532	3159997	23872	23872
3152910YVW pt ...	2369200 pt	2369200 pt	3159913111	2353201	2353201	3159997111	2387213	2387213
3152910YVW pt ...	2369300 pt	2369300 pt	3159913121	2353203	2353203	3159997121	2387215	2387215
3152910YVW pt ...	2385000 pt	2385000 pt	3159913131	2353205	2353205	3159997131	2387253	2387253
			3159913141	2353209	2353209	3159997141	2387255	2387255
			3159913YVW	2353200	2353200	3159997YVW	2387200	2387200
3152910YVW pt ...	2385100 pt	2385100 pt	3159915	23533	23533	315999A	23890 pt	23890 pt
3152910YVW pt ...	2361002 pt	2361002 pt	3159915111	2353301	2353301	315999A111	2389045	2389031 pt
3152910YVW pt ...	2369002 pt	2369002 pt	3159915121	2353303	2353303	315999A221	2389053	2389053
3152910YVW pt ...	2385002 pt	2385002 pt	3159915131	2353309	2353309	315999A231	2389057	2389057
			3159915YVW	2353300	2353300	315999AYVW	2389000 pt	2389000 pt
3152921	23710 pt	23710 pt	315991W	23530	23530	315999C pt	23961	23961
3152921100	2371000 pt	2371000 pt	315991WYVW	2353000	2353000	315999C111 pt	2396111	2396111
			315991WYVW	2353002	2353002	315999C111 pt	2399091	2399098 pt
3152925	23860 pt	23860 pt	3159921	23813	23813	315999C121	2396153	2396153
3152925111	2386015	2386015	3159921000	2381300	2381300	315999CYVW pt	2396100	2396100
3152925221	2386053	2386053	3159922	23814	23814	315999CYVW pt	2399000 pt	2399000 pt
3152925231	2386098	2386098	3159923000	2381400	2381400	315999G	56990 pt	56990 pt
3152925YVW	2386000 pt	2386000 pt	3159925	31510 pt	31510 pt	315999G100 pt	5699010	5699000 pt
			3159925000	3151000 pt	3151000 pt	315999G100 pt	5699020	5699000 pt
315292W pt	23710 pt	23710 pt	315992W pt	23810	23810	315999W pt	23390 pt	23390 pt
						315999W pt	23850 pt	23850 pt
315292W pt	23860 pt	23860 pt	315992WYVW pt	31510 pt	31510 pt	315999W pt	23870	23870
315292WYVW pt ...	2371000 pt	2371000 pt	315992WYVW pt	2381000	2381000	315999W pt	23890 pt	23890 pt
315292WYVW pt ...	2386000 pt	2386000 pt	315992WYVW pt	3151000 pt	3151000 pt	315999W pt	23960 pt	23960 pt
315292WYVW pt ...	2371002	2371002	3159925	31510 pt	31510 pt	315999W pt	23990 pt	23990 pt
315292WYVW pt ...	2386002	2386002	3159925000	3151000 pt	3151000 pt	315999W pt	23850 pt	23850 pt
						315999W pt	23870	23870
3152991	23293 pt	23293 pt	315992W pt	23810	23810	315999W pt	23890 pt	23890 pt
3152991100	2329330	2329330	315992WYVW pt	2381000	2381000	315999W pt	23960 pt	23960 pt
			315992WYVW pt	3151000 pt	3151000 pt	315999W pt	23990 pt	23990 pt
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			315992WYVW pt	3151002	3151002	315999WYVW pt	2339000 pt	2339000 pt
3152995	23890 pt	23890 pt	3159930	23230	23230	315999WYVW pt	2385000 pt	2385000 pt
3152995111	2389081	2389081	3159930111	2323021	2323021	315999WYVW pt	2387000	2387000
3152995121	2389091	2389091	3159930121	2323027	2323027	315999WYVW pt	2389000 pt	2389000 pt
3152995131	2389098	2389098	3159930231	2323028	2323028	315999WYVW pt	2396000 pt	2396000 pt
3152995YVW	2389000 pt	2389000 pt	3159930241	2323049	2323049	315999WYVW pt	2399000 pt	2399000 pt
			3159930YVW	2323000	2323000	315999WYVW pt	5699000	5699000 pt
315299W pt	23290 pt	23290 pt	3159930YVW	2323002	2323002	315999WYVW pt	2339002 pt	2339002 pt
						315999WYVW pt	2385002 pt	2385002 pt
315299W pt	23390 pt	23390 pt	3159991	23397 pt	23397 pt	315999WYVW pt	2387002	2387002
			3159991100	2339770	2339770	315999WYVW pt	2389002 pt	2389002 pt
315299W pt	23890 pt	23890 pt				315999WYVW pt	2396002 pt	2396002 pt
315299WYVW pt ...	2329000 pt	2329000 pt	3159993	23851 pt	23851 pt	315999WYVW pt	2399002 pt	2399002 pt
315299WYVW pt ...	2339000 pt	2339000 pt	3159993100	2385190	2385198 pt	315999WYVW pt	5699002	5699000 pt
315299WYVW pt ...	2389000 pt	2389000 pt						
315299WYVW pt ...	2329002 pt	2329002 pt						
315299WYVW pt ...	2339002 pt	2339002 pt						
315299WYVW pt ...	2389002 pt	2389002 pt						

Other Apparel Accessories and Other Apparel Manufacturing

1997

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1997 Economic Census

Manufacturing

Industry Series



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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

Special Tabulations

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division	301-457-4673
Service Sector Statistics Division	301-457-2668

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.

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Manufacturing

SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

Table 1. Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315999	Other apparel accessories & other apparel mfg	1 634	1 680	26 745	550 631	20 683	37 159	315 393	1 345 608	1 355 661	2 696 120	69 877
233940	Women's outerwear, n.e.c. (pt)	N	11	203	3 324	162	254	1 942	14 316	6 679	20 846	59
238580	Waterproof outer garments (pt)	N	7	455	8 092	388	755	5 579	20 718	16 810	37 340	1 070
238700	Apparel belts	N	161	5 344	131 397	3 599	7 073	60 321	279 027	362 489	649 053	5 154
238940	Apparel & accessories, n.e.c. (pt)	N	61	1 313	27 576	981	1 972	18 637	44 216	60 011	105 265	1 773
239620	Automotive & apparel trimmings (pt)	N	632	12 301	230 242	9 800	16 217	135 159	451 530	511 377	960 446	46 422
239920	Fabricated textile products, n.e.c. (pt)	N	84	4 722	108 065	3 684	7 229	62 701	435 810	344 012	770 529	13 775
569921	Miscellaneous apparel & accessory stores	N	724	2 407	41 935	2 069	3 659	31 054	99 991	54 283	152 641	1 624

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
	E ¹	Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
315999, OTHER APPAREL ACCESSORIES & OTHER APPAREL MFG												
United States	2	1 680	277	26 745	550 631	20 683	37 159	315 393	1 345 608	1 355 661	2 696 120	69 877
Arkansas	5	10	2	121	2 651	92	148	1 164	1 893	4 192	6 872	164
California	2	301	62	5 189	101 981	4 077	6 758	57 801	216 123	194 961	409 922	11 582
Connecticut	-	21	4	662	14 484	535	1 100	10 473	54 312	62 122	114 391	378
Florida	4	93	7	621	10 720	523	761	6 990	20 834	18 454	39 396	1 158
Georgia	2	41	4	359	6 292	286	458	4 315	14 810	13 169	27 977	1 071
Illinois	2	68	13	1 502	38 908	976	1 550	12 376	58 091	94 916	158 657	2 972
Massachusetts	1	35	7	432	10 693	329	566	5 497	26 790	32 867	62 355	322
New Jersey	5	73	14	1 202	25 134	965	1 798	16 575	61 358	44 414	104 893	1 650
New York	2	273	46	4 051	78 984	3 115	5 856	47 323	155 232	174 513	329 165	4 671
North Carolina	1	33	10	1 273	23 889	1 114	2 028	15 740	47 051	48 393	93 555	2 837
Oklahoma	6	23	3	171	2 291	134	174	1 344	3 959	4 862	9 267	197
Pennsylvania	-	76	16	1 824	38 293	1 402	2 809	25 919	78 680	99 255	179 861	3 752
Tennessee	-	30	7	1 256	21 839	1 108	2 351	16 161	55 408	129 815	185 616	1 741
Texas	1	102	17	2 287	55 356	1 541	2 908	25 179	218 441	110 620	331 987	7 972
Utah	7	10	2	117	1 624	94	129	1 021	3 120	3 141	6 240	242
Virginia	5	32	1	126	2 264	105	166	1 467	10 198	6 240	14 260	512
Washington	1	26	3	228	6 005	194	423	4 093	11 570	6 618	17 716	816
Wisconsin	-	17	4	712	12 257	563	1 053	7 109	15 016	23 042	38 278	2 605

* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

Table 3. Detailed Statistics by Industry: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
315999, OTHER APPAREL ACCESSORIES & OTHER APPAREL MFG		315999, OTHER APPAREL ACCESSORIES & OTHER APPAREL MFG— Con.	
Companies ¹	number.. 1 634	Value added	\$1,000.. 1 345 608
All establishments	number.. 1 680	Total inventories, beginning of year	\$1,000.. 348 493
Establishments with 1 to 19 employees	number.. 1 403	Finished goods inventories, beginning of year	\$1,000.. 166 056
Establishments with 20 to 99 employees	number.. 234	Work-in-process inventories, beginning of year	\$1,000.. 42 443
Establishments with 100 employees or more	number.. 43	Materials and supplies inventories, beginning of year	\$1,000.. 139 994
All employees	number.. 26 745	Total inventories, end of year	\$1,000.. 361 709
Total compensation ²	\$1,000.. 656 868	Finished goods inventories, end of year	\$1,000.. 165 925
Annual payroll	\$1,000.. 550 631	Work-in-process inventories, end of year	\$1,000.. 47 723
Total fringe benefits	\$1,000.. 106 237	Materials and supplies inventories, end of year	\$1,000.. 148 061
Production workers, average for year	number.. 20 683	Gross book value of total assets at beginning of year	\$1,000.. 376 863
Production workers on March 12	number.. 20 651	Total capital expenditures (new and used)	\$1,000.. 69 877
Production workers on May 12	number.. 20 791	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 12 142
Production workers on August 12	number.. 20 644	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 57 735
Production workers on November 12	number.. 20 646	Total retirements ²	\$1,000.. 23 277
Production-worker hours	1,000.. 37 159	Gross book value of total assets at end of year	\$1,000.. 423 463
Production-worker wages	\$1,000.. 315 393	Total depreciation during year ²	\$1,000.. 34 847
Total cost of materials	\$1,000.. 1 355 661	Total rental payments ²	\$1,000.. 34 668
Cost of materials, parts, containers, etc., consumed	\$1,000.. 1 071 076	Buildings and other structures rental payments ²	\$1,000.. 19 964
Cost of resales	\$1,000.. 182 029	Machinery and equipment rental payments ²	\$1,000.. 14 704
Cost of fuels	\$1,000.. 6 076	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 909
Cost of purchased electricity	\$1,000.. 15 590	Response coverage ratio ⁴	percent.. 53
Cost of contract work	\$1,000.. 80 890	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 4 444
Quantity of electricity purchased for heat and power	1,000 kWh.. 213 905	Response coverage ratio ⁴	percent.. 53
Quantity of electricity generated less sold for heat and power	1,000 kWh.. —	Cost of purchased communications services ³	\$1,000.. 3 324
Total value of shipments	\$1,000.. 2 696 120	Response coverage ratio ⁴	percent.. 53
Primary products value of shipments	\$1,000.. 2 165 875	Cost of purchased legal services ³	\$1,000.. 1 092
Secondary products value of shipments	\$1,000.. 237 984	Response coverage ratio ⁴	percent.. 53
Total miscellaneous receipts	\$1,000.. 292 261	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 1 576
Value of resales	\$1,000.. 237 413	Response coverage ratio ⁴	percent.. 53
Contract receipts	\$1,000.. 50 970	Cost of purchased advertising services ³	\$1,000.. 4 025
Other miscellaneous receipts	\$1,000.. 3 878	Response coverage ratio ⁴	percent.. 53
Primary products specialization ratio	percent.. 90	Cost of purchased software and other data processing services ³	\$1,000.. 852
Value of primary products shipments made in all industries	\$1,000.. 2 340 167	Response coverage ratio ⁴	percent.. 53
Value of primary products shipments made in this industry	\$1,000.. 2 165 875	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 087
Value of primary products shipments made in other industries	\$1,000.. 174 292	Response coverage ratio ⁴	percent.. 53
Coverage ratio	percent.. 92		

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table.

³Based on ASM sample data.

⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

Table 4. Industry Statistics by Employment Size: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315999. OTHER APPAREL ACCESSORIES & OTHER APPAREL MFG												
All establishments	2	1 680	277	26 745	550 631	20 683	37 159	315 393	1 345 608	1 355 661	2 696 120	69 877
Establishments with 1 to 4 employees	7	991	—	1 704	30 373	1 482	2 403	20 486	74 494	56 151	130 204	2 656
Establishments with 5 to 9 employees	5	242	—	1 539	27 775	1 192	1 837	17 542	71 302	70 621	135 918	3 518
Establishments with 10 to 19 employees	3	170	—	2 347	42 033	1 785	2 931	25 544	98 319	94 540	193 637	5 455
Establishments with 20 to 49 employees	2	164	164	5 124	96 454	3 997	6 762	58 609	243 329	225 386	470 588	24 060
Establishments with 50 to 99 employees	2	70	70	4 917	93 767	3 790	6 318	54 491	192 174	209 193	393 913	8 217
Establishments with 100 to 249 employees	1	28	28	4 111	88 698	3 325	6 423	54 879	237 102	261 818	496 287	10 777
Establishments with 250 to 499 employees	3	9	9	2 782	56 955	2 071	3 806	31 354	120 674	148 504	269 545	4 010
Establishments with 500 to 999 employees	—	5	5	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	—	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—	—
Administrative records ²	9	756	—	1 760	27 794	1 484	2 312	18 999	61 874	51 882	113 707	2 719

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
315999	Other apparel accessories & other apparel mfg	1 680	26 745	550 631	20 683	37 159	315 393	1 345 608	1 355 661	2 696 120	69 877
3159991	Women's, misses', juniors' scarfs, dummies, and other neckwear	10	198	3 262	158	248	1 895	14 179	6 536	20 563	55
3159993	Aprons and bibs, plastics and rubberized	4	447	8 010	381	748	5 524	20 584	16 642	37 036	1 067
3159995	Leather belts	49	4 170	110 321	2 809	5 535	46 425	240 250	311 875	557 551	4 388
3159997	Belts, other than leather	18	554	9 974	399	769	6 541	18 330	21 394	40 111	218
315999A	Hose supporters, arm bands, suspenders, and handkerchiefs	8	827	17 404	634	1 463	13 450	22 499	40 008	64 551	D
315999C	Fabricated textile products, nec	121	6 872	151 672	5 552	10 932	93 007	544 739	503 110	1 038 155	16 118
315999E	Apparel findings and trimmings (except men's and junior boys' coat, suit, and trouser findings)	63	2 165	42 766	1 682	2 874	23 794	81 084	68 463	150 205	4 128
315999G	Custom-made garments	698	2 205	39 126	1 892	3 323	28 952	93 214	50 685	142 390	1 511

Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315999	Other apparel accessories and other apparel	N	X	X	2 340 167	N	X	X	N
3159991	Women's, misses', and juniors' scarfs, dickies, and other neckwear	N	X	X	29 522	N	X	X	N
31599911	Women's, misses', and juniors' scarfs, dickies, and other neckwear	N	X	X	29 522	N	X	X	N
3159991100	Women's, misses', and juniors' scarfs, dickies, and other neckwear	25	X	X	29 522	18	X	X	29 205
3159993	Aprons and bibs, plastics and rubberized	N	X	X	34 579	N	X	X	N
31599931	Aprons and bibs, plastics and rubberized	N	X	X	34 579	N	X	X	N
3159993100	Aprons and bibs, plastics and rubberized	7	X	X	34 579	N	X	X	N
3159995	Leather belts	N	X	X	408 874	N	X	X	351 307
31599951	Leather belts	N	X	X	351 385	N	X	X	N
3159995111	Women's, misses', juniors', girls' and little boys' leather belts, made for sale to apparel firms	19	X	S	51 912	33	X	S	74 531
3159995121	Women's, misses', juniors', girls' and little boys' leather belts, made for sale separately	15	X	P7 259.3	113 292	24	X	1 353.2	43 509
3159995131	Men's and junior boys' leather belts, made for sale to apparel firms	18	X	13 526.1	126 020	25	X	P1 981.0	86 480
3159995141	Men's and junior boys' leather belts, made for sale separately	14	X	S	60 161	22	X	2 373.1	141 680
3159995Y	Leather belts, nsk	N	X	X	57 489	N	X	X	N
3159995YVV	Leather belts, nsk	N	X	X	57 489	N	X	X	5 107
3159997	Belts, other than leather	N	X	X	50 941	N	X	X	165 391
31599971	Belts, other than leather	N	X	X	41 638	N	X	X	N
3159997111	Women's, misses', juniors', girls', and little boys' belts, other than leather, made for sale to apparel firms	12	X	S	14 142	42	X	P3 214.1	55 602
3159997121	Women's, misses', juniors', girls', and little boys' belts, other than leather, made for sale separately	4	X	S	6 693	17	X	2 672.7	41 375
3159997131	Men's and junior boys' belts, other than leather, made for sale to apparel firms	2	X	P60.7	1 399	21	X	P1 192.8	33 741
3159997141	Men's and junior boys' belts, other than leather, made for sale separately	7	X	S	19 404	19	X	1 540.1	27 961
3159997Y	Belts, other than leather, nsk	N	X	X	9 303	N	X	X	N
3159997YVV	Belts, other than leather, nsk	N	X	X	9 303	N	X	X	6 712
315999A	Hose supporters, arm bands, suspenders, and handkerchiefs	N	X	X	53 624	N	X	X	N
315999A1	Hose supporters, arm bands, and suspenders	N	X	X	D	N	X	X	N
315999A111	Hose supporters, arm bands, and suspenders	12	X	D	D	N	X	X	N
315999A2	Handkerchiefs	N	X	X	D	N	X	X	N
315999A221	Men's and junior boys' handkerchiefs	2	X	D	D	7	X	D	D
315999A231	Women's, misses', juniors', girls', and little boys' handkerchiefs	2	X	D	D	2	X	D	D
315999AY	Hose supporters, arm bands, suspenders, and handkerchiefs, nsk	N	X	X	-	N	X	X	N
315999AYVV	Hose supporters, arm bands, suspenders, and handkerchiefs, nsk	N	X	X	-	N	X	X	N
315999C	Fabricated textile products, nec	N	X	X	918 620	N	X	X	N
315999C1	All other apparel and apparel accessories, including aprons and diapers	N	X	X	915 781	N	X	X	N
315999C111	All other apparel and apparel accessories, including aprons and diapers	118	X	X	862 222	N	X	X	N
315999C121	Hat bands, hat linings, tip printing and stamping, sweats, cap fronts, and hatters' fur, cut or blown, for sale as such	32	X	X	53 559	30	X	X	D
315999CY	Fabricated textile products, nec, nsk	N	X	X	2 839	N	X	X	N
315999CYVV	Fabricated textile products, nec, nsk	N	X	X	2 839	N	X	X	N
315999E	Apparel findings and trimmings (except men's and junior boys' coat, suit, and trouser findings)	N	X	X	159 046	N	X	X	N
315999E1	Apparel findings and trimmings (except men's and junior boys' coat, suit, and trouser findings)	N	X	X	159 046	N	X	X	N
315999E100	Apparel findings and trimmings (except men's and junior boys' coat, suit, and trouser findings)	81	X	X	159 046	99	X	X	289 646
315999G	Custom-made garments	N	X	X	141 625	N	X	X	N
315999G1	Custom-made garments	N	X	X	141 625	N	X	X	N
315999G100	Custom-made garments	278	X	X	141 625	N	X	X	N

See footnotes at end of table.

Table 6a. Products Statistics: 1997 and 1992—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
315999	Other apparel accessories and other apparel—Con.								
315999W	Other apparel accessories and other apparel, nsk, total	N	X	X	543 336	N	X	X	N
315999WY	Other apparel accessories and other apparel, nsk, total	N	X	X	543 336	N	X	X	N
315999WYWW	Other apparel accessories and other apparel, nsk, for nonadministrative-record establishments	N	X	X	441 452	N	X	X	N
315999WYWW	Other apparel accessories and other apparel, nsk, for administrative-record establishments	N	X	X	101 884	N	X	X	N

Additional information is available for this item; see Appendix F.

@ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

\$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3159991	WOMEN'S, MISSES', AND JUNIORS' SCARFS, DICKIES, AND OTHER NECKWEAR		
	United States	29 522	N
	New York	7 216	N
	Pennsylvania	2 284	N
3159993	APRONS AND BIBS, PLASTICS AND RUBBERIZED		
	United States	34 579	N
3159995	LEATHER BELTS		
	United States	408 874	351 307
	California	123 925	106 648
	New York	59 905	58 192
	Texas	27 601	24 868
3159997	BELTS, OTHER THAN LEATHER		
	United States	50 941	165 391
	California	16 643	32 400
	New York	18 862	75 699
315999A	HOSE SUPPORTERS, ARM BANDS, SUSPENDERS, AND HANDKERCHIEFS		
	United States	53 624	N
315999C	FABRICATED TEXTILE PRODUCTS, NEC		
	United States	918 620	N
	California	18 458	N
	Georgia	16 039	N
	Illinois	2 851	N
	Iowa	9 822	N
	Maryland	8 441	N
	Massachusetts	33 735	N
	Missouri	11 817	N
	New Jersey	15 049	N
	New York	69 212	N
	North Carolina	23 750	N
	Ohio	6 308	N
	Pennsylvania	72 094	N
	South Carolina	13 683	N
	Tennessee	97 352	N
	Wisconsin	2 320	N

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 1997 and 1992—Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
315999E	APPAREL FINDINGS AND TRIMMINGS (EXCEPT MEN'S AND JUNIOR BOYS' COAT, SUIT, AND TROUSER FINDINGS)		
	United States	159 046	N
	California.....	25 170	N
	Florida.....	5 215	N
	Maryland.....	10 997	N
	Massachusetts.....	14 843	N
	New Jersey.....	19 327	N
	New York.....	49 008	N
	North Carolina.....	6 291	N
	Pennsylvania.....	10 295	N
315999G	CUSTOM-MADE GARMENTS		
	United States	141 625	N
	California.....	17 013	N
	Florida.....	4 289	N
	Georgia.....	5 530	N
	Illinois.....	8 812	N
	Maryland.....	2 438	N
	Massachusetts.....	2 749	N
	Michigan.....	3 279	N
	Minnesota.....	2 242	N
	Missouri.....	2 560	N
	New Jersey.....	31 997	N
	New York.....	26 193	N
	Ohio.....	3 889	N
	Pennsylvania.....	4 193	N
	Tennessee.....	2 165	N
	Texas.....	5 935	N
	Virginia.....	2 299	N

Additional information is available for this item; see Appendix F.
 @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.
 \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
315999	OTHER APPAREL ACCESSORIES & OTHER APPAREL MFG				
31321023	Broadwoven fabrics (piece goods)	X	177 766	X	N
31322103	Narrow fabrics (12 inches or less in width)	X	11 317	X	N
31324000	Knit fabrics	X	3 560	X	N
31311003	Yarn, all fibers	X	43 725	X	N
33999301	Buttons, zippers, and slide fasteners	X	5 981	X	N
31611001	Finished leather	X	148 047	X	N
31332001	Plastics coated, impregnated, or laminated fabrics	S	86 226	X	N
31500000	Garments purchased to be printed and resold	X	4 690	X	N
32591011	Printing ink, for printing on garments	X	2 532	X	N
32521105	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc.	D	D	X	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	X	14 296	X	N
32520003	Manmade fibers, staple, and tow	X	4 483	X	N
00970099	All other materials and components, parts, containers, and supplies	X	155 599	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	D	X	N

Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: P 10 to 19 percent estimated; Q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

Specific Materials Consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the “Cost of all other materials...,” Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the “Materials not specified by kind,” Census materials code 00971000.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive

stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

COST OF PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Response Coverage Ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production Workers

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record reproducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the six-digit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

PRODUCTION-WORKER HOURS

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

RETIREMENTS OF DEPRECIABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those

industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

1. Primary products value of shipments.
2. Secondary product value of shipments.
3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term “Value of primary products shipments made in this industry” is used in this publication and refers to the same data.

Duplication in Cost of Materials and Value of Shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.

NAICS Codes, Titles, and Descriptions

315999 OTHER APPAREL ACCESSORIES AND OTHER APPAREL MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing apparel and apparel accessories (except apparel knitting mills; cut and sew apparel contractors; cut and sew apparel; hats and caps; mittens and gloves; and men's and boys' neckwear). Jobbers for these products, who perform entrepreneurial functions involved in other apparel and accessory manufacture, including buying raw materials, designing and preparing samples, arranging for other apparel and accessories to be made from their materials, and marketing finished other apparel and accessories, are included. Examples of products made by these establishments are apparel trimmings and findings, belts, women's scarves, suspenders, and waterproof outerwear.

The data published with NAICS code 315999 include the following SIC industries:

2339 Women's outerwear, n.e.c. (pt)
2385 Waterproof outer garments (pt)
2387 Apparel belts
2389 Apparel and accessories, n.e.c. (pt)
2396 Automotive and apparel trimmings (pt)
2399 Fabricated textile products, n.e.c. (pt)
5699 Miscellaneous apparel and accessory stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315999 include establishments primarily engaged in custom tailoring but do not include establishments primarily engaged in the manufacture of rubber bibs, aprons, and bathing caps.

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

Not applicable for this report.

Appendix G.

Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3151111 pt.....	22514	22514	315191W pt.....	22590 pt	22590 pt	315211WYWW pt ...	2311002 pt	2311002 pt
3151111 pt.....	22525 pt	22525 pt	315191WYWW pt...	2253000	2253000	315211WYWW pt ...	2311902	2311902
3151111111	2251417	2251417	315191WYWW pt...	2259000 pt	2259000 pt	315211WYWW pt ...	2321002 pt	2321002 pt
3151111121	2252513	2252513	315191WYWW pt...	2253002	2253002	315211WYWW pt ...	2321902	2321902
3151111131	2251413	2251413	315191WYWW pt...	2259002 pt	2259002 pt	315211WYWW pt ...	2322002 pt	2322002 pt
3151111141	2251419	2251419				315211WYWW pt ...	2325002 pt	2325002 pt
3151111191 pt.....	2251424 pt	2251415	3151921	22541	22541	315211WYWW pt ...	2325902 pt	2325902
3151111191 pt.....	2251424 pt	2251423	3151921110	2254111	2254111	315211WYWW pt ...	2326002 pt	2326002 pt
3151111YVV pt.....	2251400	2251400	3151921120	2254113	2254113	315211WYWW pt ...	2326902	2326902
3151111YVV pt.....	2252500 pt	2252500 pt	3151921YVV	2254100	2254100	315211WYWW pt ...	2329002 pt	2329002 pt
3151113	22516	22516	3151923	22544	22544			
3151113111	2251612	2251612	3151923110	2254411	2254411	315211WYWW pt ...	2329902	2329902
3151113221	2251614	2251614	3151923120	2254413	2254413	315211WYWW pt ...	2341002 pt	2341002 pt
3151113231	2251616	2251616	3151923YVV	2254400	2254400	315211WYWW pt ...	2384002 pt	2384002 pt
3151113341	2251615	2251615				315211WYWW pt ...	2385002 pt	2385002 pt
3151113351	2251617	2251617	3151927	22590 pt	22590 pt	315211WYWW pt ...	2395002 pt	2395002 pt
3151113391	2251620	2251619	3151927110	2259030	2259030 pt			
3151113391	2251620	2251619	3151927120	2259040	2259098 pt	3152121	23319 pt	23319 pt
3151113YVV	2251600	2251600	3151927YVV	2259000 pt	2259098 pt	3152121100	2331900	2331900
3151115	22518	22518	315192W pt.....	22540	22540	3152123 pt.....	23359 pt	23359 pt
3151115121	2251814	2251814						
3151115131	2251817	2251817	315192W pt.....	22590 pt	22590 pt	3152123 pt.....	23619 pt	23619 pt
3151115YVV	2251800	2251800	315192WYWW pt...	2254000	2254000	3152123100 pt	2335900	2335900
			315192WYWW pt...	2259000 pt	2259000 pt	3152123100 pt	2361900	2361900
315111W pt.....	22510	22510	315192WYWW pt...	2254002	2254002			
315111W pt.....	22520 pt	22520 pt	315192WYWW pt...	2259002 pt	2259002 pt	3152125	23379 pt	23379 pt
315111WYWW pt.....	2251000	2251000				3152125100	2337900	2337900
315111WYWW pt.....	2252000 pt	2252000 pt	3152111	23119 pt	23119 pt			
315111WYWW pt.....	2251002	2251002	3152111100	2311900	2311900	3152127 pt.....	23399 pt	23399 pt
315111WYWW pt.....	2252002 pt	2252002 pt				3152127 pt.....	23699 pt	23699 pt
			3152113	23219 pt	23219 pt	3152127100 pt	2339900	2339900
3151191	22522	22522	3152113100	2321900	2321900	3152127100 pt	2369900	2369900
3151191111	2252223	2252223						
3151191221	2252225	2252225	3152115	23229	23229	3152129	23419 pt	23419 pt
3151191331	2252233	2252233	3152115100	2322900	2322900	3152129100 pt	2341901	2341900 pt
3151191441	2252235	2252235				3152129100 pt	2341903	2341900 pt
3151191551	2252243	2252243	3152117	23259 pt	23259 pt	3152129100 pt	2341900	2341900 pt
3151191561	2252245	2252245	3152117100	2325900	2325900			
3151191591	2252287	2252287				315212B	23429	23429
3151191YVV	2252200	2252200	3152119	23269 pt	23269 pt	315212B100	2342900	2342900
			3152119100	2326900	2326900			
3151193	22525 pt	22525 pt	315211B	23299 pt	23299 pt	315212D	23849 pt	93000 pt
3151193111	2252516	2252515	315211B100	2329900	2329900	315212D100 pt	2384995	9300000 pt
3151193121	2252501	2252501				315212D100 pt	2384900 pt	9300000 pt
3151193131	2252503	2252503	315211D	23849 pt	93000 pt			
3151193241	2252521	2252521	315211D100 pt	2384994	9300000 pt			
3151193251	2252527	2252527	315211D100 pt	2384900 pt	9300000 pt	315212F	23859 pt	23859 pt
3151193261	2252533	2252531				315212F100 pt	2385920	2385900 pt
3151193371	2252551	2252551	315211F	23859 pt	23859 pt	315212F100 pt	2385900 pt	2385900 pt
3151193381	2252557	2252557	315211F100 pt	2385910	2385900 pt			
3151193391	2252561	2252561	315211F100 pt	2385900 pt	2385900 pt	315212H	23959 pt	23958 pt
31511933B1	2252588	2252588				315212H100 pt	2395900 pt	2395800 pt
3151193YVV	2252500 pt	2252500 pt	315211H	23959 pt	23958 pt	315212H100 pt	2395994	2395833
			315211H100 pt	2395900 pt	2395800 pt			
3151195	22526	22526	315211H100 pt	2395993	2395811	315212J	23899	93000 pt
3151195111	2252625	2252625	315211W pt.....	23110 pt	23110 pt	315212J100 pt	2389993	9300000 pt
3151195121	2252642	2252642	315211W pt.....	23119 pt	23119 pt	315212J100 pt	2389900	9300000 pt
3151195131	2252651	2252651						
3151195YVV	2252600	2252600	315211W pt.....	23210 pt	23210 pt	315212W pt.....	23310 pt	23310 pt
			315211W pt.....	23219 pt	23219 pt	315212W pt.....	23319 pt	23319 pt
315119W	22520 pt	22520 pt	315211W pt.....	23220 pt	23220 pt	315212W pt.....	23350 pt	23350 pt
315119WYWW	2252000 pt	2252000 pt	315211W pt.....	23250 pt	23250 pt	315212W pt.....	23359 pt	23359 pt
315119WYWW	2252002 pt	2252002 pt	315211W pt.....	23259 pt	23259 pt	315212W pt.....	23370 pt	23370 pt
			315211W pt.....	23260 pt	23260 pt	315212W pt.....	23379 pt	23379 pt
3151911	22534	22534	315211W pt.....	23269 pt	23269 pt	315212W pt.....	23390 pt	23390 pt
3151911100	2253400	2253400	315211W pt.....	23290 pt	23290 pt	315212W pt.....	23399 pt	23399 pt
			315211W pt.....	23299 pt	23299 pt	315212W pt.....	23410 pt	23410 pt
3151913	22535	22535	315211W pt.....	23410 pt	23410 pt	315212W pt.....	23419 pt	23419 pt
3151913100	2253500	2253500	315211W pt.....	23840 pt	23840 pt	315212W pt.....	23420 pt	23420 pt
						315212W pt.....	23610 pt	23610 pt
3151915	22536	22536	315211W pt.....	23850 pt	23850 pt	315212W pt.....	23619 pt	23619 pt
3151915100	2253600	2253600				315212W pt.....	23690 pt	23690 pt
			315211W pt.....	23950 pt	23950 pt	315212W pt.....	23699 pt	23699 pt
3151917	2253A	2253A	315211WYWW pt...	2311000 pt	2311000 pt	315212W pt.....	23840 pt	23840 pt
3151917100	2253A00	2253A00	315211WYWW pt...	2321000 pt	2321000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2322000 pt	2322000 pt	315212W pt.....	23890 pt	23890 pt
3151919	2253B	2253B	315211WYWW pt...	2325000 pt	2325000 pt			
3151919100	2253B00	2253B00	315211WYWW pt...	2326000 pt	2326000 pt	315212W pt.....	23950 pt	23950 pt
			315211WYWW pt...	2329000 pt	2329000 pt			
315191A	2253C	2253C	315211WYWW pt...	2341000 pt	2341000 pt	315212W pt.....	23840 pt	23840 pt
315191A100	2253C00	2253C00	315211WYWW pt...	2384000 pt	2384000 pt	315212W pt.....	23850 pt	23850 pt
			315211WYWW pt...	2385000 pt	2385000 pt	315212W pt.....	23890 pt	23890 pt
315191C	2253D	2253D	315211WYWW pt...	2395000 pt	2395000 pt			
315191C110	2253D01	2253D01	315211WYWW pt...	2310000 pt	2310000 pt			
315191C120	2253D05	2253D05	315211WYWW pt...	2321000 pt	2321000 pt			
315191C130	2253D09	2253D09	315211WYWW pt...	2322000 pt	2322000 pt			
315191CYVV	2253D00	2253D00	315211WYWW pt...	2325000 pt	2325000 pt			
			315211WYWW pt...	2326000 pt	2326000 pt			
315191E	2253E	2253E	315211WYWW pt...	2329000 pt	2329000 pt			
315191E100	2253E00	2253E00	315211WYWW pt...	2341000 pt	2341000 pt			
315191EYVV	2253E02	2253E02	315211WYWW pt...	2384000 pt	2384000 pt			
			315211WYWW pt...	2385000 pt	2385000 pt			
315191G	22590 pt	22590 pt	315211WYWW pt...	2395000 pt	2395000 pt			
315191G100	2259020	2259020						
315191W pt.....	22530	22530						

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt.	23950 pt.	23950 pt.	315223W pt.	23610 pt.	23610 pt.	3152323 pt.	23614 pt.	23614 pt.
315212WYWW pt.	2331000 pt.	2331000 pt.	315223WYWW pt.	2321000 pt.	2321000 pt.	3152323010 pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2335000 pt.	2335000 pt.	315223WYWW pt.	2361000 pt.	2361000 pt.	3152323020 pt.	2361401 pt.	2361400 pt.
315212WYWW pt.	2337000 pt.	2337000 pt.	315223WYWW pt.	2321002 pt.	2321002 pt.	3152323YV pt.	2331400 pt.	2331400 pt.
315212WYWW pt.	2339000 pt.	2339000 pt.	315223WYWW pt.	2361002 pt.	2361002 pt.	3152323YV pt.	2361400 pt.	2361400 pt.
315212WYWW pt.	2341000 pt.	2341000 pt.	315224 pt.	23251 pt.	23251 pt.	315232W pt.	23310 pt.	23310 pt.
315212WYWW pt.	2342000 pt.	2342000 pt.	315224 pt.	23693 pt.	23693 pt.	315232W pt.	23610 pt.	23610 pt.
315212WYWW pt.	2346000 pt.	2346000 pt.	3152241010 pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331000 pt.	2331000 pt.
315212WYWW pt.	2369000 pt.	2369000 pt.	3152241020 pt.	2369342 pt.	2369342 pt.	315232WYWW pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2384000 pt.	2384000 pt.	3152241YV pt.	2325100 pt.	2325100 pt.	315232WYWW pt.	2331002 pt.	2331002 pt.
315212WYWW pt.	2385000 pt.	2385000 pt.	3152241YV pt.	2369300 pt.	2369300 pt.	315232WYWW pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2389000 pt.	2389000 pt.	3152243 pt.	23252 pt.	23252 pt.	3152330 pt.	23350 pt.	23350 pt.
315212WYWW pt.	2395000 pt.	2395000 pt.	3152243000 pt.	2325200 pt.	2325200 pt.	3152330 pt.	23353 pt.	23353 pt.
315212WYWW pt.	2331002 pt.	2331002 pt.	315224W pt.	23250 pt.	23250 pt.	3152330 pt.	23610 pt.	23610 pt.
315212WYWW pt.	2331902 pt.	2331902 pt.	315224W pt.	23690 pt.	23690 pt.	3152330 pt.	23615 pt.	23615 pt.
315212WYWW pt.	2335002 pt.	2335002 pt.	315224WYWW pt.	2325000 pt.	2325000 pt.	3152330010 pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2335902 pt.	2335902 pt.	315224WYWW pt.	2369000 pt.	2369000 pt.	3152330020 pt.	2361501 pt.	2361500 pt.
315212WYWW pt.	2337002 pt.	2337002 pt.	315224WYWW pt.	2325002 pt.	2325002 pt.	3152330YV pt.	2335000 pt.	2335000 pt.
315212WYWW pt.	2337902 pt.	2337902 pt.	315224WYWW pt.	2369002 pt.	2369002 pt.	3152330YV pt.	2335300 pt.	2335300 pt.
315212WYWW pt.	2339002 pt.	2339002 pt.	3152251 pt.	23261 pt.	23261 pt.	3152330YV pt.	2361000 pt.	2361000 pt.
315212WYWW pt.	2339902 pt.	2339902 pt.	3152251000 pt.	2326100 pt.	2326100 pt.	3152330YV pt.	2361500 pt.	2361500 pt.
315212WYWW pt.	2341002 pt.	2341002 pt.	3152253 pt.	23262 pt.	23262 pt.	3152330YV pt.	2335002 pt.	2335002 pt.
315212WYWW pt.	2341902 pt.	2341902 pt.	3152253000 pt.	2326200 pt.	2326200 pt.	3152341 pt.	2361002 pt.	2361002 pt.
315212WYWW pt.	2342002 pt.	2342002 pt.	315225W pt.	23260 pt.	23260 pt.	3152341 pt.	23371 pt.	23371 pt.
315212WYWW pt.	2361002 pt.	2361002 pt.	315225WYWW pt.	2326000 pt.	2326000 pt.	3152341010 pt.	23692 pt.	23692 pt.
315212WYWW pt.	2361902 pt.	2361902 pt.	315225WYWW pt.	2326002 pt.	2326002 pt.	3152341020 pt.	2369201 pt.	2369200 pt.
315212WYWW pt.	2369002 pt.	2369002 pt.	3152281 pt.	23291 pt.	23291 pt.	3152341YV pt.	2337100 pt.	2337100 pt.
315212WYWW pt.	236902 pt.	236902 pt.	3152281000 pt.	2329100 pt.	2329100 pt.	3152341YV pt.	2369200 pt.	2369200 pt.
315212WYWW pt.	2384002 pt.	2384002 pt.	3152283 pt.	23293 pt.	23293 pt.	3152343 pt.	23372 pt.	23372 pt.
315212WYWW pt.	2385002 pt.	2385002 pt.	3152283 pt.	23693 pt.	23693 pt.	3152343000 pt.	2337200 pt.	2337200 pt.
315212WYWW pt.	2389002 pt.	2389002 pt.	3152283010 pt.	2329310 pt.	2329310 pt.	3152345 pt.	23374 pt.	23374 pt.
315212WYWW pt.	2395002 pt.	2395002 pt.	3152283020 pt.	2369395 pt.	2369395 pt.	3152345 pt.	23693 pt.	23693 pt.
315221 pt.	23221 pt.	23221 pt.	3152283130 pt.	2329360 pt.	2329360 pt.	3152345010 pt.	2337410 pt.	2337410 pt.
3152211 pt.	23412 pt.	23412 pt.	3152283140 pt.	2369372 pt.	2369372 pt.	3152345030 pt.	2369394 pt.	2369393 pt.
3152211010 pt.	2322100 pt.	2322100 pt.	3152283150 pt.	2329380 pt.	2329380 pt.	3152345120 pt.	2337420 pt.	2337420 pt.
3152211020 pt.	2341203 pt.	2341200 pt.	3152283YV pt.	2329300 pt.	2329300 pt.	3152345YV pt.	2337400 pt.	2337400 pt.
3152211YV pt.	2322100 pt.	2322100 pt.	3152283YV pt.	2369300 pt.	2369300 pt.	3152345YV pt.	2369300 pt.	2369300 pt.
3152211YV pt.	2341200 pt.	2341200 pt.	3152285 pt.	23851 pt.	23851 pt.	3152347 pt.	23851 pt.	23851 pt.
3152213 pt.	23222 pt.	23222 pt.	3152285100 pt.	2385193 pt.	2385198 pt.	3152347000 pt.	2385142 pt.	2385140 pt.
3152213 pt.	23413 pt.	23413 pt.	315228W pt.	23290 pt.	23290 pt.	315234W pt.	23370 pt.	23370 pt.
3152213010 pt.	2322200 pt.	2322200 pt.	315228W pt.	23690 pt.	23690 pt.	315234W pt.	23690 pt.	23690 pt.
3152213020 pt.	2341303 pt.	2341300 pt.	315228W pt.	23850 pt.	23850 pt.	315234W pt.	23850 pt.	23850 pt.
3152213YV pt.	2322200 pt.	2322200 pt.	315228WYWW pt.	2329000 pt.	2329000 pt.	315234WYV pt.	2337000 pt.	2337000 pt.
3152213YV pt.	2341300 pt.	2341300 pt.	315228WYWW pt.	2369000 pt.	2369000 pt.	315234WYV pt.	2369000 pt.	2369000 pt.
3152215 pt.	23693 pt.	23693 pt.	315228WYWW pt.	2385000 pt.	2385000 pt.	315234WYV pt.	2385000 pt.	2385000 pt.
3152215 pt.	23840 pt.	23840 pt.	315228WYWW pt.	2329002 pt.	2329002 pt.	315234WYV pt.	2337002 pt.	2337002 pt.
3152215000 pt.	2369382 pt.	2369380 pt.	315228WYWW pt.	2369002 pt.	2369002 pt.	315234WYV pt.	2369002 pt.	2369002 pt.
3152215000 pt.	2384011 pt.	2384011 pt.	315228WYWW pt.	2385002 pt.	2385002 pt.	315234WYV pt.	2385002 pt.	2385002 pt.
315221W pt.	23220 pt.	23220 pt.	3152311 pt.	23412 pt.	23412 pt.	3152391 pt.	23392 pt.	23392 pt.
315221W pt.	23410 pt.	23410 pt.	3152311010 pt.	2341201 pt.	2341200 pt.	3152391000 pt.	2339200 pt.	2339200 pt.
315221W pt.	23690 pt.	23690 pt.	3152311020 pt.	2341202 pt.	2341200 pt.	3152393 pt.	23394 pt.	23394 pt.
315221W pt.	23840 pt.	23840 pt.	3152311YV pt.	2341200 pt.	2341200 pt.	3152393000 pt.	2339400 pt.	2339400 pt.
315221WYV pt.	2322000 pt.	2322000 pt.	3152313 pt.	23413 pt.	23413 pt.	3152395 pt.	23395 pt.	23395 pt.
315221WYV pt.	2341303 pt.	2341300 pt.	3152313010 pt.	2341301 pt.	2341300 pt.	3152395 pt.	23693 pt.	23693 pt.
315221WYV pt.	2322200 pt.	2322200 pt.	3152313020 pt.	2341302 pt.	2341300 pt.	3152395010 pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2341002 pt.	2341002 pt.	3152313YV pt.	2341300 pt.	2341300 pt.	3152395020 pt.	2369341 pt.	2369340 pt.
315221WYV pt.	2369002 pt.	2369002 pt.	3152315 pt.	23421 pt.	23421 pt.	3152395YV pt.	2339500 pt.	2339500 pt.
315221WYV pt.	2384002 pt.	2384002 pt.	3152315000 pt.	2342100 pt.	2342100 pt.	3152395YV pt.	2369300 pt.	2369300 pt.
3152221 pt.	23115 pt.	23115 pt.	3152317 pt.	23422 pt.	23422 pt.	3152397 pt.	23397 pt.	23397 pt.
3152221 pt.	23692 pt.	23692 pt.	3152317 pt.	23890 pt.	23890 pt.	3152397 pt.	23693 pt.	23693 pt.
3152221010 pt.	2311500 pt.	2311500 pt.	3152317110 pt.	2342210 pt.	2342210 pt.	3152397020 pt.	2339760 pt.	2339760 pt.
3152221020 pt.	2369202 pt.	2369200 pt.	3152317121 pt.	2342281 pt.	2342281 pt.	3152397110 pt.	2339730 pt.	2339730 pt.
3152221YV pt.	2369200 pt.	2369200 pt.	3152317131 pt.	2389035 pt.	2389031 pt.	3152397130 pt.	2339780 pt.	2339780 pt.
3152223 pt.	23116 pt.	23116 pt.	3152317151 pt.	2389071 pt.	2389071 pt.	3152397140 pt.	2369371 pt.	2369370 pt.
3152223000 pt.	2311600 pt.	2311600 pt.	3152317YV pt.	2342200 pt.	2342200 pt.	3152397YV pt.	2339700 pt.	2339700 pt.
3152225 pt.	23117 pt.	23117 pt.	3152319 pt.	2389000 pt.	2389000 pt.	3152397YV pt.	2369300 pt.	2369300 pt.
3152225000 pt.	2311700 pt.	2311700 pt.	3152319 pt.	23693 pt.	23693 pt.	3152399 pt.	23851 pt.	23851 pt.
3152227 pt.	23851 pt.	23851 pt.	3152319000 pt.	23840 pt.	23840 pt.	3152399100 pt.	2385194 pt.	2385198 pt.
3152227000 pt.	2385100 pt.	2385100 pt.	3152319000 pt.	2384021 pt.	2384021 pt.	315239W pt.	23390 pt.	23390 pt.
3152227000 pt.	2385141 pt.	2385140 pt.	315231W pt.	23410 pt.	23410 pt.	315239W pt.	23690 pt.	23690 pt.
315222W pt.	23110 pt.	23110 pt.	315231W pt.	23420 pt.	23420 pt.	315239W pt.	23850 pt.	23850 pt.
315222W pt.	23690 pt.	23690 pt.	315231W pt.	23690 pt.	23690 pt.	315239WYV pt.	2339000 pt.	2339000 pt.
315222W pt.	23850 pt.	23850 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2369000 pt.	2369000 pt.
315222WYV pt.	2311000 pt.	2311000 pt.	315231W pt.	23840 pt.	23840 pt.	315239WYV pt.	2385000 pt.	2385000 pt.
315222WYV pt.	2369000 pt.	2369000 pt.	315231W pt.	23890 pt.	23890 pt.	315239WYV pt.	2339002 pt.	2339002 pt.
315222WYV pt.	2385000 pt.	2385000 pt.	315231WYV pt.	2341000 pt.	2341000 pt.	315239WYV pt.	2369002 pt.	2369002 pt.
315222WYV pt.	2311002 pt.	2311002 pt.	315231WYV pt.	2342000 pt.	2342000 pt.	315239WYV pt.	2385002 pt.	2385002 pt.
315222WYV pt.	2369002 pt.	2369002 pt.	315231WYV pt.	2369000 pt.	2369000 pt.	3152910 pt.	23410 pt.	23410 pt.
315222WYV pt.	2385002 pt.	2385002 pt.	315231WYV pt.	2384000 pt.	2384000 pt.	3152910 pt.	23412 pt.	23412 pt.
3152231 pt.	23213 pt.	23213 pt.	315231WYV pt.	2389000 pt.	2389000 pt.	3152910 pt.	23413 pt.	23413 pt.
3152231 pt.	23613 pt.	23613 pt.	315231WYV pt.	2384000 pt.	2384000 pt			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3152910 pt.....	23693 pt.....	23693 pt	315299W pt.....	23390 pt.....	23390 pt	3159995.....	23871.....	23871
3152910 pt.....	23850 pt.....	23850 pt	315299W pt.....	23890 pt.....	23890 pt	3159995111.....	2387113.....	2387113
3152910 pt.....	23851 pt.....	23851 pt	315299WYWW pt...	2329000 pt.....	2329000 pt	3159995121.....	2387115.....	2387115
3152910110.....	2341204.....	2341200 pt	315299WYWW pt...	2339000 pt.....	2339000 pt	3159995131.....	2387153.....	2387153
3152910120.....	2341304.....	2341300 pt	315299WYWW pt...	2389000 pt.....	2389000 pt	3159995141.....	2387155.....	2387155
3152910230.....	2361303.....	2361300 pt	315299WYWW pt...	2329002 pt.....	2329002 pt	3159995YVW.....	2387100.....	2387100
3152910240.....	2361403.....	2361400 pt	315299WYWW pt...	2339002 pt.....	2339002 pt	3159997.....	23872.....	23872
3152910250.....	2361502.....	2361500 pt	315299WYWW pt...	2389002 pt.....	2389002 pt	3159997111.....	2387213.....	2387213
3152910260.....	2369203.....	2369200 pt	3159911.....	23531.....	23531	3159997121.....	2387215.....	2387215
3152910270.....	2369343.....	2369340 pt	3159911111.....	2353101.....	2353101	3159997131.....	2387253.....	2387253
31529102A0.....	2369373.....	2369370 pt	3159911121.....	2353103.....	2353103	3159997141.....	2387255.....	2387255
31529102C0 pt.....	2369396.....	2369393 pt	3159911131.....	2353105.....	2353105	3159997YVW.....	2387200.....	2387200
31529102C0 pt.....	2385171.....	2385171	3159911141.....	2353109.....	2353109	315999A.....	23890 pt.....	23890 pt
3152910YVW pt...	2341000 pt.....	2341000 pt	3159911YVW.....	2353100.....	2353100	315999A111.....	2389045.....	2389031 pt
3152910YVW pt...	2341200 pt.....	2341200 pt	3159913.....	23532.....	23532	315999A221.....	2389053.....	2389053
3152910YVW pt...	2341300 pt.....	2341300 pt	3159913111.....	2353201.....	2353201	315999A231.....	2389057.....	2389057
3152910YVW pt...	2361000 pt.....	2361000 pt	3159913121.....	2353203.....	2353203	315999AYVW.....	2389000 pt.....	2389000 pt
3152910YVW pt...	2361300 pt.....	2361300 pt	3159913131.....	2353205.....	2353205	315999C pt.....	23961.....	23961
3152910YVW pt...	2361400 pt.....	2361400 pt	3159913141.....	2353209.....	2353209	315999C pt.....	23990 pt.....	23990 pt
3152910YVW pt...	2361500 pt.....	2361500 pt	3159913YVW.....	2353200.....	2353200	315999C111 pt....	2396111.....	2396111
3152910YVW pt...	2369000 pt.....	2369000 pt	3159915.....	23533.....	23533	315999C111 pt....	2399091.....	2399098 pt
3152910YVW pt...	2369200 pt.....	2369200 pt	3159915111.....	2353301.....	2353301	315999C121.....	2396153.....	2396153
3152910YVW pt...	2369300 pt.....	2369300 pt	3159915121.....	2353303.....	2353303	315999CVVW pt....	2396100.....	2396100
3152910YVW pt...	2385000 pt.....	2385000 pt	3159915131.....	2353309.....	2353309	315999CVVW pt....	2399000 pt.....	2399000 pt
3152910YVW pt...	2385100 pt.....	2385100 pt	3159915YVW.....	2353300.....	2353300	315999E.....	23963 pt.....	23963 pt
3152910YVW pt...	2341002 pt.....	2341002 pt	315991W.....	23530.....	23530	315999E100.....	2396313.....	2396311
3152910YVW pt...	2361002 pt.....	2361002 pt	315991WYWW.....	2353000.....	2353000	315999G.....	56990 pt.....	56990 pt
3152910YVW pt...	2369002 pt.....	2369002 pt	315991WYVW.....	2353002.....	2353002	315999G100 pt....	5699010.....	5699000 pt
3152910YVW pt...	2385002 pt.....	2385002 pt	3159921.....	23813.....	23813	315999G100 pt....	5699020.....	5699000 pt
3152921.....	23710 pt.....	23710 pt	3159921000.....	2381300.....	2381300	315999W pt.....	23390 pt.....	23390 pt
3152921100.....	2371000 pt.....	2371000 pt	3159923.....	23814.....	23814	315999W pt.....	23850 pt.....	23850 pt
3152925.....	23860 pt.....	23860 pt	3159923000.....	2381400.....	2381400	315999W pt.....	23870.....	23870
3152925111.....	2386015.....	2386015	3159925.....	31510 pt.....	31510 pt	315999W pt.....	23890 pt.....	23890 pt
3152925221.....	2386053.....	2386053	3159925000.....	3151000 pt.....	3151000 pt	315999W pt.....	23960 pt.....	23960 pt
3152925231.....	2386098.....	2386098	315992W pt.....	23810.....	23810	315999W pt.....	23960 pt.....	23960 pt
3152925YVW.....	2386000 pt.....	2386000 pt	315992W pt.....	31510 pt.....	31510 pt	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23710 pt.....	23710 pt	315992W pt.....	3151000.....	3151000	315999W pt.....	23990 pt.....	23990 pt
315292W pt.....	23860 pt.....	23860 pt	315992WYWW pt...	2381000.....	2381000	315999W pt.....	56990 pt.....	56990 pt
315292WYVW pt...	2371000 pt.....	2371000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2339000 pt.....	2339000 pt
315292WYVW pt...	2386000 pt.....	2386000 pt	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2385000 pt.....	2385000 pt
315292WYVW pt...	2371002.....	2371002	315992WYVW pt...	2381002.....	2381002	315999WYVW pt...	2389000 pt.....	2389000 pt
315292WYVW pt...	2386002.....	2386002	315992WYVW pt...	3151002.....	3151002	315999WYVW pt...	2396000 pt.....	2396000 pt
3152991.....	23293 pt.....	23293 pt	3159930.....	23230.....	23230	315999WYVW pt...	2399000 pt.....	2399000 pt
3152991100.....	2329330.....	2329330	3159930111.....	2323021.....	2323021	315999WYVW pt...	5699000.....	5699000 pt
3152993.....	23397 pt.....	23397 pt	3159930121.....	2323027.....	2323027	315999WYVW pt...	2339002 pt.....	2339002 pt
3152993100.....	2339720.....	2339720	3159930231.....	2323028.....	2323028	315999WYVW pt...	2387002.....	2387002
3152995.....	23890 pt.....	23890 pt	3159930241.....	2323049.....	2323049	315999WYVW pt...	2389002 pt.....	2389002 pt
3152995111.....	2389081.....	2389081	3159930YVW.....	2323000.....	2323000	315999WYVW pt...	2396002 pt.....	2396002 pt
3152995121.....	2389091.....	2389091	3159930YVW.....	2323002.....	2323002	315999WYVW pt...	2399002 pt.....	2399002 pt
3152995131.....	2389098.....	2389098	3159991.....	23397 pt.....	23397 pt	315999WYVW pt...	2387002.....	2387002
3152995YVW.....	2389000 pt.....	2389000 pt	3159991100.....	2339770.....	2339770	315999WYVW pt...	2389002 pt.....	2389002 pt
315299W pt.....	23290 pt.....	23290 pt	3159993.....	23851 pt.....	23851 pt	315999WYVW pt...	2396002 pt.....	2396002 pt
			3159993100.....	2385190.....	2385198 pt	315999WYVW pt...	2399002 pt.....	2399002 pt
						315999WYVW pt...	5699002.....	5699000 pt

