

Animal (Except Poultry) Slaughtering

1997

Issued November 1999

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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 expendi-tures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
311611	Animal (except poultry) slaughtering	1 308	1 393	142 374	3 245 844	121 469	266 665	2 521 706	8 524 918	45 996 333	54 501 553	536 552
201100	Meat packing plants	N	1 383	142 252	3 243 497	121 373	266 452	2 520 031	8 517 107	45 987 748	54 484 916	536 238
204820	Prepared feeds, n.e.c. (pt)	N	10	122	2 347	96	213	1 675	7 811	8 585	16 637	314

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)				
311611, ANIMAL (EXCEPT POULTRY) SLAUGHTERING												
United States	-	1 393	386	142 374	3 245 844	121 469	266 665	2 521 706	8 524 918	45 996 333	54 501 553	536 552
Alabama	1	23	4	394	7 815	289	456	4 212	17 817	57 368	75 079	1 065
California	4	77	27	4 300	103 370	3 576	6 892	75 768	306 501	1 265 265	1 571 460	11 650
Colorado	1	37	13	5 999	127 091	5 282	12 297	102 288	416 500	2 430 569	2 858 277	24 579
Florida	4	31	8	503	10 896	330	596	5 606	22 795	76 758	99 989	1 149
Georgia	3	39	9	1 206	26 659	1 073	2 211	20 589	68 546	256 217	324 730	3 700
Idaho	2	15	4	1 121	19 811	973	1 791	16 406	35 021	546 949	575 786	9 454
Illinois	-	85	35	8 663	225 505	7 522	16 906	183 331	491 683	2 295 070	2 794 641	15 741
Indiana	-	32	10	3 471	59 146	3 071	6 521	47 661	116 839	865 348	977 438	4 342
Iowa	-	60	25	16 163	351 798	14 052	31 392	288 117	811 277	4 452 415	5 290 581	58 824
Kansas	-	39	10	14 116	327 091	12 570	29 642	275 136	658 162	6 401 765	7 044 185	52 074
Kentucky	2	23	7	2 325	56 914	1 668	3 695	35 318	101 662	450 969	549 422	5 749
Michigan	-	42	13	2 725	64 289	2 372	5 013	52 967	368 825	899 149	1 265 669	13 610
Minnesota	-	32	12	5 462	165 269	4 056	8 282	96 800	782 937	1 935 932	2 719 531	34 677
Nebraska	-	55	25	18 461	415 242	16 376	37 881	349 910	1 413 569	7 293 251	8 689 517	54 957
New York	6	37	4	410	8 513	343	644	6 510	26 228	75 005	101 281	1 204
North Dakota	8	13	5	482	9 873	405	843	7 754	24 575	150 385	174 934	1 313
Ohio	1	49	10	1 037	25 528	906	1 740	21 058	84 501	230 958	315 345	2 468
Oregon	1	23	4	378	8 913	330	602	7 055	16 947	85 572	102 925	715
Pennsylvania	-	56	23	4 923	148 478	3 576	7 458	92 119	282 092	1 464 400	1 750 503	32 140
South Carolina	1	24	7	1 904	32 657	1 713	3 070	23 230	61 133	146 450	208 992	3 510
Tennessee	2	25	6	1 340	26 951	1 014	1 717	15 848	145 837	237 044	380 914	5 228
Texas	-	102	30	14 055	298 860	12 321	29 268	242 379	794 135	5 250 447	6 046 518	59 406
Washington	-	25	9	2 464	51 354	2 168	4 685	43 190	163 279	1 052 151	1 211 485	12 620
Wisconsin	4	60	19	4 728	106 122	3 923	8 239	84 686	411 180	1 639 575	2 042 612	13 516

* 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
311611, ANIMAL (EXCEPT POULTRY) SLAUGHTERING		311611, ANIMAL (EXCEPT POULTRY) SLAUGHTERING—Con.	
Companies ¹	number.. 1 308	Value added	\$1,000.. 8 524 918
All establishments	number.. 1 393	Total inventories, beginning of year	\$1,000.. 1 269 289
Establishments with 1 to 19 employees	number.. 1 007	Finished goods inventories, beginning of year	\$1,000.. 924 032
Establishments with 20 to 99 employees	number.. 220	Work-in-process inventories, beginning of year	\$1,000.. 97 725
Establishments with 100 employees or more	number.. 166	Materials and supplies inventories, beginning of year	\$1,000.. 247 532
All employees	number.. 142 374	Total inventories, end of year	\$1,000.. 1 257 655
Total compensation ²	\$1,000.. 3 956 343	Finished goods inventories, end of year	\$1,000.. 933 303
Annual payroll	\$1,000.. 3 245 844	Work-in-process inventories, end of year	\$1,000.. 108 152
Total fringe benefits	\$1,000.. 710 499	Materials and supplies inventories, end of year	\$1,000.. 216 200
Production workers, average for year	number.. 121 469	Gross book value of total assets at beginning of year	\$1,000.. 5 303 376
Production workers on March 12	number.. 120 257	Total capital expenditures (new and used)	\$1,000.. 536 552
Production workers on May 12	number.. 121 080	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 124 443
Production workers on August 12	number.. 121 151	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 412 109
Production workers on November 12	number.. 123 388	Total retirements ²	\$1,000.. 101 630
Production-worker hours	1,000.. 266 665	Gross book value of total assets at end of year	\$1,000.. 5 738 298
Production-worker wages	1,000.. 2 521 706	Total depreciation during year ²	\$1,000.. 339 989
Total cost of materials	\$1,000.. 45 996 333	Total rental payments ²	\$1,000.. 477 757
Cost of materials, parts, containers, etc., consumed	\$1,000.. 43 042 782	Buildings and other structures rental payments ²	\$1,000.. 45 358
Cost of resales	\$1,000.. 2 519 308	Machinery and equipment rental payments ²	\$1,000.. 432 399
Cost of fuels	\$1,000.. 124 985	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 19 475
Cost of purchased electricity	\$1,000.. 212 764	Response coverage ratio ⁴	percent.. 89
Cost of contract work	\$1,000.. 96 494	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 168 776
Quantity of electricity purchased for heat and power	1,000 kWh.. 4 751 145	Response coverage ratio ⁴	percent.. 89
Quantity of electricity generated less sold for heat and power	1,000 kWh.. D	Cost of purchased communications services ³	\$1,000.. 13 113
Total value of shipments	\$1,000.. 54 501 553	Response coverage ratio ⁴	percent.. 89
Primary products value of shipments	\$1,000.. 50 339 153	Cost of purchased legal services ³	\$1,000.. 13 965
Secondary products value of shipments	\$1,000.. 1 875 460	Response coverage ratio ⁴	percent.. 89
Total miscellaneous receipts	\$1,000.. 2 286 940	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 10 336
Value of resales	\$1,000.. 2 238 477	Response coverage ratio ⁴	percent.. 89
Contract receipts	\$1,000.. 43 655	Cost of purchased advertising services ³	\$1,000.. 38 303
Other miscellaneous receipts	\$1,000.. 4 808	Response coverage ratio ⁴	percent.. 89
Primary products specialization ratio	percent.. 96	Cost of purchased software and other data processing services ³	\$1,000.. 6 562
Value of primary products shipments made in all industries	\$1,000.. 50 781 384	Response coverage ratio ⁴	percent.. 89
Value of primary products shipments made in this industry	\$1,000.. 50 339 153	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 18 654
Value of primary products shipments made in other industries	\$1,000.. 442 231	Response coverage ratio ⁴	percent.. 89
Coverage ratio	percent.. 99		

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)				
311611, ANIMAL (EXCEPT POULTRY) SLAUGHTERING												
All establishments	-	1 393	386	142 374	3 245 844	121 469	266 665	2 521 706	8 524 918	45 996 333	54 501 553	536 552
Establishments with 1 to 4 employees	9	507	-	1 097	24 430	993	1 753	19 119	45 334	162 212	207 616	3 598
Establishments with 5 to 9 employees	9	275	-	1 812	25 064	1 526	1 974	19 539	64 695	258 446	323 176	3 573
Establishments with 10 to 19 employees	7	225	-	3 081	51 634	2 636	3 914	38 079	110 237	439 295	549 903	7 118
Establishments with 20 to 49 employees	4	141	141	4 509	91 942	3 647	6 571	65 560	232 521	874 337	1 108 103	9 517
Establishments with 50 to 99 employees	2	79	79	5 815	129 134	4 777	9 084	91 568	369 226	1 276 579	1 650 373	15 582
Establishments with 100 to 249 employees	2	64	64	9 833	233 283	8 059	16 567	167 079	729 319	3 413 121	4 132 756	51 796
Establishments with 250 to 499 employees	1	33	33	11 653	251 548	9 695	20 400	187 267	1 073 261	3 847 693	4 922 406	34 286
Establishments with 500 to 999 employees	2	21	21	15 273	348 363	12 584	26 678	258 149	863 109	4 250 682	5 125 126	59 766
Establishments with 1,000 to 2,499 employees	-	39	39	61 833	1 490 410	52 942	125 448	1 166 944	4 706 015	20 202 296	24 892 119	238 278
Establishments with 2,500 employees or more	-	9	9	27 468	600 036	24 610	54 276	508 402	331 201	11 271 672	11 589 975	113 038
Administrative records ²	9	839	-	5 031	68 026	4 360	5 355	53 287	180 389	725 694	906 041	10 138

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)				
311611	Animal (except poultry) slaughtering	1 393	142 374	3 245 844	121 469	266 665	2 521 706	8 524 918	45 996 333	54 501 553	536 552
3116111	Fresh and frozen beef, not canned or made into sausage, made from animals slaughtered in this plant	228	71 070	1 638 799	61 612	141 090	1 328 163	4 174 303	29 220 940	33 347 662	274 292
3116114	Fresh and frozen veal, not canned or made into sausage, made from animals slaughtered in this plant	17	1 237	31 697	959	2 079	21 516	80 886	309 634	389 818	2 977
3116117	Fresh and frozen lamb and mutton, not canned or made into sausage, made from animals slaughtered in this plant	10	844	16 739	628	1 364	12 550	54 822	350 707	408 246	3 421
311611A	Fresh and frozen pork, not canned or made into sausage, made from animals slaughtered in this plant	83	D	D	D	D	D	D	D	D	D
311611G	Pork, processed or cured (not canned or made into sausage), made from animals slaughtered in this plant	11	D	D	D	D	D	D	D	D	D
311611J	Sausages and similar products (not canned), made from animals slaughtered in this plant	53	6 357	167 190	4 897	10 753	105 375	685 364	1 142 409	1 836 543	26 640
311611P	Hides, skins, and pelts	12	473	11 428	364	733	7 753	51 760	123 152	171 555	2 673
311611T	Miscellaneous byproducts of meat packing plants	23	2 212	40 977	1 881	3 583	29 142	149 055	180 204	334 828	4 473

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)
311611	Animal slaughtering products, except poultry	N	X	X	50 781 384	N	X	X	N
3116111	Fresh and frozen beef, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	28 209 408	N	X	X	26 943 303
31161111	Fresh and frozen whole carcass and half carcass beef, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	6 733 960	N	X	X	N
311611111	Fresh and frozen whole carcass and half carcass beef, not canned or made into sausage, made from animals slaughtered in this plant	77	X	S	6 733 960	82	X	P5 662.5	5 669 169
31161112	Fresh and frozen primal cuts, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	1 127 657	N	X	X	N
3116111221	Fresh and frozen primal cuts, not canned or made into sausage, made from animals slaughtered in this plant	41	X	S	1 127 657	42	X	769.8	1 260 574
31161113	Fresh and frozen subprimal and fabricated cuts packaged in plastics (boxed beef), not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	15 465 082	N	X	X	N
3116111331	Fresh and frozen subprimal and fabricated cuts packaged in plastics (boxed beef), not canned or made into sausage, made from animals slaughtered in this plant	74	X	P10 398.2	15 465 082	53	X	P9 385.5	15 298 298
31161114	Other fresh and frozen subprimal and fabricated cuts, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	155 518	N	X	X	N
3116111441	Other fresh and frozen subprimal and fabricated cuts, not canned or made into sausage, made from animals slaughtered in this plant	23	X	89.7	155 518	21	X	P150.0	168 894
31161115	Fresh and frozen boneless beef, including hamburger, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	3 271 892	N	X	X	N
3116111551	Fresh and frozen boneless beef, including hamburger, not canned or made into sausage, made from animals slaughtered in this plant	101	X	P3 084.4	3 271 892	78	X	2 967.8	3 263 275
31161116	Other fresh and frozen edible beef, including corned beef, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	1 108 291	N	X	X	N
3116111661	Fresh and frozen variety meats (edible organs), not canned or made into sausage, made from animals slaughtered in this plant	40	X	1 432.3	950 700	48	X	1 413.5	755 922
3116111671	Other fresh and frozen edible beef, including corned beef, not canned or made into sausage, made from animals slaughtered in this plant	18	X	108.4	157 591	12	X	P109.3	80 940
3116111Y	Beef, not canned or made into sausage, nsk	N	X	X	347 008	N	X	X	N
3116111YWV	Beef, not canned or made into sausage, nsk	N	X	X	347 008	N	X	X	446 231
3116114	Fresh and frozen veal, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	355 320	N	X	X	283 048
31161141	Fresh and frozen veal, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	347 848	N	X	X	N
3116114111	Fresh and frozen whole carcass and half carcass veal, not canned or made into sausage, made from animals slaughtered in this plant	16	X	71.9	116 435	13	X	P27.9	47 486
3116114121	Fresh and frozen primal, subprimal, and fabricated cuts, and boneless veal, not canned or made into sausage, made from animals slaughtered in this plant	22	X	116.1	217 631	13	X	P118.8	222 622
3116114131	Other fresh and frozen edible veal, including edible organs, not canned or made into sausage, made from animals slaughtered in this plant	11	X	S	13 782	4	X	4.6	7 855
3116114Y	Veal, not canned or made into sausage, nsk	N	X	X	7 472	N	X	X	N
3116114YWV	Veal, not canned or made into sausage, nsk	N	X	X	7 472	N	X	X	5 085

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)
311611	Animal slaughtering products, except poultry—Con.								
3116117	Fresh and frozen lamb and mutton, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	375 768	N	X	X	335 009
31161171	Fresh and frozen lamb and mutton, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	373 024	N	X	X	N
3116117111	Fresh and frozen whole carcass and half carcass lamb and mutton, not canned or made into sausage, made from animals slaughtered in this plant	15	X	S	233 245	14	X	210.7	214 711
3116117121	Fresh and frozen primal cuts and all other edible lamb and mutton, not canned or made into sausage, made from animals slaughtered in this plant	14	X	S	65.3 139 779	8	X	72.8	116 952
3116117Y	Lamb and mutton, not canned or made into sausage, nsk	N	X	X	2 744	N	X	X	N
3116117YVW	Lamb and mutton, not canned or made into sausage, nsk	N	X	X	2 744	N	X	X	3 346
311611A	Fresh and frozen pork, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	11 811 765	N	X	X	9 647 669
311611A1	Fresh and frozen pork, not canned or made into sausage, made from animals slaughtered in this plant	N	X	X	11 782 659	N	X	X	N
311611A111	Fresh and frozen whole carcass and half carcass pork, not canned or made into sausage, made from animals slaughtered in this plant	35	X	S	1 425.5 1 275 775	27	X	917.8	643 782
311611A121	Fresh and frozen primal and fabricated cuts (including trimmings), not canned or made into sausage, made from animals slaughtered in this plant	86	X	S	10 249 430	73	X	10 742.5	8 791 795
311611A131	Fresh and frozen variety meats (edible organs), not canned or made into sausage, made from animals slaughtered in this plant	30	X	S	257 454	36	X	517.2	184 529
311611AY	Pork, not canned or made into sausage, nsk	N	X	X	29 106	N	X	X	N
311611AYVW	Pork, not canned or made into sausage, nsk	N	X	X	29 106	N	X	X	27 563
311611D	Lard, made from animals slaughtered in this plant	N	X	X	D	N	X	X	105 582
311611D1	Lard, made from animals slaughtered in this plant	N	X	X	D	N	X	X	N
311611D111	Lard, consumer sizes (containers 3 lb or less), made from animals slaughtered in this plant	3	X	D	D	3	X	P11.4	3 246
311611D121	Lard, commercial sizes (containers more than 3 lb), made from animals slaughtered in this plant	9	X	D	D	12	X	345.8	87 998
311611DY	Lard, nsk	N	X	X	284	N	X	X	N
311611DYVW	Lard, nsk	N	X	X	284	N	X	X	N
311611G	Pork, processed or cured (not canned or made into sausage), made from animals slaughtered in this plant	N	X	X	3 304 828	N	X	X	2 016 572
311611G1	Pork, processed or cured (not canned or made into sausage), made from animals slaughtered in this plant	N	X	X	3 260 028	N	X	X	N
311611G111	Sweet-pickled or dry-cured pork (not smoked, cooked, canned, or made into sausage), made from animals slaughtered in this plant \$	4	X	D	D	5	X	11.6	19 706
311611G121	Dry salt pork, not canned or made into sausage, made from animals slaughtered in this plant \$	11	X	D	D	14	X	110.1	69 922
311611G131	Smoked hams and picnics, except canned, made from animals slaughtered in this plant \$	31	X	S	2 007 740	53	X	745.9	1 069 072
311611G141	Smoked slab bacon, made from animals slaughtered in this plant \$	22	X	S	263.8 256 375	26	X	124.2	99 773
311611G151	Smoked sliced bacon, made from animals slaughtered in this plant \$	25	X	S	418.7 608 995	37	X	581.7	527 345
311611G161	Other smoked pork, not canned or made into sausage, made from animals slaughtered in this plant \$	16	X	S	73 952	25	X	73.8	71 863
311611G171	Boiled ham, barbecue pork, and other cooked pork, except canned meats and sausage, made from animals slaughtered in this plant \$	8	X	S	132.8 216 881	16	X	99.6	147 038
311611GY	Pork, processed or cured (not canned or made into sausage), nsk	N	X	X	44 800	N	X	X	N
311611GYVW	Pork, processed or cured (not canned or made into sausage), nsk	N	X	X	44 800	N	X	X	11 853

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)
311611	Animal slaughtering products, except poultry—Con.								
311611J	Sausages and similar products (not canned), made from animals slaughtered in this plant.....	N	X	X	1 997 959	N	X	X	1 707 086
311611J1	Sausages and similar products (not canned), made from animals slaughtered in this plant.....	N	X	X	1 980 907	N	X	X	N
311611J111	Fresh sausage (pork sausage, breakfast links, etc.), made from animals slaughtered in this plant \$..... mil lb..	64	X	S	857 571	60	X	S	665 479
311611J121	Dry or semidry (salami, cervelat, beef jerky, pepperoni, summer sausage, pork roll, etc.), made from animals slaughtered in this plant \$..... mil lb..	13	X	D	D	17	X	97.3	171 724
311611J131	Frankfurters, including wieners, made from animals slaughtered in this plant \$..... mil lb..	18	X	S	336 828	36	X	392.6	392 370
311611J141	Other sausage, smoked or cooked (bologna, liverwurst, Polish sausage, packaged luncheon meats, minced roll, smoked pork sausage, etc.), made from animals slaughtered in this plant \$..... mil lb..	43	X		384.0 595 556	47	X	P319.9	426 724
311611J151	Jellied goods and similar preparations (headcheese, meat loaves, scrapple, puddings, chili con carne, imitation sausage, etc.), made from animals slaughtered in this plant \$..... mil lb..	9	X	D	D	14	X	20.6	19 716
311611JY	Sausages and similar products (not canned), nsk.....	N	X	X	17 052	N	X	X	N
311611JYWV	Sausages and similar products (not canned), nsk.....	N	X	X	17 052	N	X	X	31 073
311611M	Canned meats (except dog, cat, and baby food), made from animals slaughtered in this plant.....	N	X	X	D	N	X	X	D
311611M1	Canned meats (except dog, cat, and baby food), made from animals slaughtered in this plant.....	N	X	X	D	N	X	X	N
311611M100	Canned meats (except dog, cat, and baby food), made from animals slaughtered in this plant \$..... mil lb..	3	X	D	D	5	X	D	D
311611P	Hides, skins, and pelts.....	N	X	X	2 068 504	N	X	X	1 993 537
311611P1	Hides, skins, and pelts.....	N	X	X	2 056 708	N	X	X	N
311611P111	Cattle hides, skins, and pelts, including kip..... millions..	85	X	S	1 961 215	100	X	P33.3	1 911 017
311611P121	Calif hides, skins, and pelts, except kip..... millions..	16	X	S	33 954	14	X	0.7	27 392
311611P131	Sheep and lamb hides, skins, and pelts..... millions..	5	X	S	18 805	7	X	S	23 569
311611P141	Other hides, skins, and pelts, except kip..... millions..	22	X	S	42 734	18	X	S	23 083
311611PY	Hides, skins, and pelts, nsk.....	N	X	X	11 796	N	X	X	N
311611PYWV	Hides, skins, and pelts, nsk.....	N	X	X	11 796	N	X	X	8 476
311611T	Miscellaneous byproducts of meat packing plants.....	N	X	X	906 031	N	X	X	N
311611T1	Miscellaneous byproducts of meat packing plants.....	N	X	X	849 160	N	X	X	N
311611T111	Other fresh and frozen meats, including horsemeat for human consumption, made from animals slaughtered in this plant..... mil lb..	21	X	S	91 215	9	X	P63.5	104 649
311611T121	Pork rind pellets, including pork cracklings, made from animals slaughtered in this plant.....	4	X	X	2 307	2	X	X	1 143
311611T131	Edible tallow and stearin, made from animals slaughtered in this plant..... mil lb..	10	X		1 564.5 491 576	13	X	P1 407.4	185 709
311611T141	Natural sausage casings (beef, hog, etc.), made from animals slaughtered in this plant..... mil lb..	11	X	S	54 796	10	X	S	9 011
311611T151	Killing floor offal, scrap, and bones.....	66	X	X	165 704	72	X	X	207 525
311611T161	Other miscellaneous byproducts of meat packing plants, including pulled wool and glue stock (except sausage casings).....	17	X	X	D	17	X	X	D
311611T171	Animals slaughtered for pet feed..... 1,000 s tons..	1	X	D	D	N	X	N	N
311611TY	Miscellaneous byproducts of meat packing plants, nsk.....	N	X	X	56 871	N	X	X	N
311611TYWV	Miscellaneous byproducts of meat packing plants, nsk.....	N	X	X	56 871	N	X	X	N
311611W	Fresh and frozen meat from animals slaughtered in this plant, nsk, total.....	N	X	X	1 295 339	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)
311611	Animal slaughtering products, except poultry—Con.								
311611W	Fresh and frozen meat from animals slaughtered in this plant, nsk, total—Con.								
311611WY	Fresh and frozen meat from animals slaughtered in this plant, nsk, total	N	X	X	1 295 339	N	X	X	N
311611WYWW	Fresh and frozen meat from animals slaughtered in this plant, nsk, for nonadministrative-record establishments	N	X	X	389 704	N	X	X	N
311611WYWY	Fresh and frozen meat from animals slaughtered in this plant, nsk, for administrative-record establishments	N	X	X	905 635	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
3116111	FRESH AND FROZEN BEEF, NOT CANNED OR MADE INTO SAUSAGE, MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT		
	United States	28 209 408	26 943 303
	Arkansas	8 964	N
	California	814 273	765 000
	Florida	62 378	27 955
	Georgia	244 154	126 637
	Idaho	512 477	484 440
	Illinois	934 066	793 191
	Iowa	716 501	1 356 984
	Kansas	5 864 883	5 118 789
	Michigan	358 828	309 323
	Minnesota	631 768	740 936
	Missouri	26 821	65 180
	Nebraska	5 831 988	5 829 421
	New Jersey	5 533	35 566
	New York	12 501	2 947
	North Carolina	110 236	64 863
	Ohio	20 294	122 283
	Oklahoma	7 793	10 967
	Oregon	74 040	41 096
	Pennsylvania	1 098 822	998 150
	Tennessee	110 144	39 696
	Texas	5 008 782	4 578 324
	Washington	804 066	702 794
	Wisconsin	1 388 896	1 078 265
3116114	FRESH AND FROZEN VEAL, NOT CANNED OR MADE INTO SAUSAGE, MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT		
	United States	355 320	283 048
	California	32 514	N
	Illinois	93 001	N
	Michigan	4 903	N
3116117	FRESH AND FROZEN LAMB AND MUTTON, NOT CANNED OR MADE INTO SAUSAGE, MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT		
	United States	375 768	335 009

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	
311611A	FRESH AND FROZEN PORK, NOT CANNED OR MADE INTO SAUSAGE, MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT			
	United States	11 811 765	9 647 669	
	Arkansas	7 825	N	
	California	171 161	N	
	Florida	2 336	N	
	Georgia	10 546	117 111	
	Illinois	1 107 322	955 040	
	Indiana	780 506	505 711	
	Iowa	3 893 462	3 607 274	
	Kansas	48 823	N	
	Nebraska	896 109	623 931	
	Pennsylvania	231 843	N	
	Texas	4 092	N	
311611D	LARD, MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT			
	United States	D	105 582	
311611G	PORK, PROCESSED OR CURED (NOT CANNED OR MADE INTO SAUSAGE), MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT			
	United States	3 304 828	2 016 572	
	Arkansas	4 434	N	
	Georgia	2 896	29 792	
Nebraska	197 339	N		
311611J	SAUSAGES AND SIMILAR PRODUCTS (NOT CANNED), MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT			
	United States	1 997 959	1 707 086	
	Alabama	71 402	80 429	
	Arkansas	12 999	N	
	Kentucky	71 453	105 529	
	Texas	136 638	49 595	
311611M	CANNED MEATS (EXCEPT DOG, CAT, AND BABY FOOD), MADE FROM ANIMALS SLAUGHTERED IN THIS PLANT			
	United States	D	D	
311611P	HIDES, SKINS, AND PELTS			
	United States	2 068 504	1 993 537	
	California	48 973	36 391	
	Idaho	16 507	N	
	Illinois	27 396	N	
	Indiana	5 167	7 591	
	Iowa	61 496	92 493	
	Kansas	468 253	378 313	
	Michigan	31 268	N	
	Minnesota	98 446	53 159	
	Nebraska	450 685	497 723	
	Ohio	2 245	5 898	
	Oklahoma	4 334	N	
	Pennsylvania	77 157	N	
	South Dakota	13 911	21 745	
	Texas	315 220	304 391	
	Washington	51 578	N	
	Wisconsin	155 148	91 766	
	311611T	MISCELLANEOUS BYPRODUCTS OF MEAT PACKING PLANTS		
		United States	906 031	N
California		37 842	N	
Colorado		175 888	N	
Georgia		28 304	N	
Idaho		16 973	N	
Illinois		44 023	N	
Indiana		16 124	N	
Iowa		63 283	N	
Kansas		86 504	N	
Kentucky		2 385	N	
Minnesota		39 060	N	
Nebraska		117 048	N	
North Carolina		2 406	N	
Ohio		2 937	N	
Pennsylvania		24 354	N	
South Dakota		8 077	N	
Texas		136 748	N	
Washington		9 907	N	
Wisconsin		27 014	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)	
311611	ANIMAL (EXCEPT POULTRY) SLAUGHTERING					
11211003	Cattle slaughtered (number of head)	1,000..	30 353.2	22 772 228	31 068.3	25 650 825
11211001	Cattle slaughtered (live weight)	mil lb..	61 011.0	S	35 747.9	X
11211007	Calves slaughtered (number of head)	1,000..	900.3	360 461	578.1	243 797
11211005	Calves slaughtered (live weight)	mil lb..	287.3	S	174.5	X
11221003	Hogs slaughtered (number of head)	1,000..	⁹ 79 438.5	10 607 200	86 308.4	9 676 967
11221001	Hogs slaughtered (live weight)	mil lb..	D	D	21 511.9	X
11241005	Sheep and lambs slaughtered (number of head)	1,000..	1 504.1	182 409	3 568.5	288 796
11241003	Sheep and lambs slaughtered (live weight)	mil lb..	D	D	⁹ 549.2	X
31161107	Fresh and frozen beef	mil lb..	1 858.9	1 532 274	585.3	481 527
31161109	Fresh and frozen veal	mil lb..	S	41 142	⁹ 17.2	15 626
31161113	Fresh and frozen pork	mil lb..	⁹ 1 728.9	1 146 895	^P 701.7	433 381
31161111	Other fresh and frozen red meats	mil lb..	S	109 432	31.8	27 102
31161101	Meat materials for sausage and canning not separable by species	mil lb..	^P 86.5	42 443	42.7	17 442
31161117	Processed pork (cured, smoked, etc.)	mil lb..	S	9 701	34.0	28 926
31161103	Other purchased meat materials (cured beef, cured lamb, etc.)	mil lb..	D	D	20.9	24 791
00190032	Poultry; live, fresh, frozen, or prepared		X	D	X	57 129
31161119	Hides, skins, and pelts		X	D	X	22 991
31194201	Spices and curing materials		X	123 673	X	69 743
31161200	Animal and collagen casings		X	15 883	X	23 226
001900A1	Packaging paper and plastics film, coated and laminated		X	785 722	X	N
32221001	Paperboard containers, boxes, and corrugated paperboard		X	420 026	X	N
32610023	Synthetic casings, including cellulosic and fibrous reinforced		X	177 164	X	48 980
00970099	All other materials and components, parts, containers, and supplies		X	1 394 118	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.		X	1 844 299	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

311611 ANIMAL (EXCEPT POULTRY) SLAUGHTERING

This U.S. industry comprises establishments primary engaged in slaughtering animals (except poultry and small game). Establishments that slaughter and prepare meats are included in this industry.

The data published with NAICS code 311611 include the following SIC industries:

- 2011 Meat packing plants
- 2048 Prepared feeds, 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 311611 do not include establishments primarily engaged in custom slaughtering. 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
\$ 311611G111	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.
\$ 311611G121	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.
\$ 311611G131	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.
\$ 311611G141	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.
\$ 311611G151	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.
\$ 311611G161	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.
\$ 311611G171	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.
\$ 311611J111	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.
\$ 311611J121	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.
\$ 311611J131	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.
\$ 311611J141	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.
\$ 311611J151	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.
\$ 311611M100	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
31111111	20473	20473	311211561	2041117	2041117	3112217	20463	20463
311111111	2047321	2047321	311211671	2041121	2041121	3112217111	2046353	2046353
311111121	2047323	2047323	311211681	2041123	2041123	3112217121	2046354	2046354
311111231	2047326	2047326	311211791	2041126	2041126	3112217131	2046356	2046356
311111341	2047338	2047338	3112117A1	2041129	2041129	3112217141	2046359	2046359
311111YVW	2047300	2047300	3112117B1	2041128	2041128	3112217YVW	2046300	2046300
3111114	20474	20474	3112118C1	2041131	2041131	311221A	20464	20464
3111114111	2047441	2047441	3112118D1	2041151	2041151	311221A111	2046462	2046462
3111114221	2047443	2047443	3112118E1	2041161	2041161	311221A221	2046465	2046465
3111114231	2047445	2047445	3112118F1	2041198	2041198	311221A231	2046472	2046472
3111114341	2047454	2047454	311211YVW	2041100	2041100	311221A241	2046475	2046475
3111114351	2047457	2047457	3112114	20412	20412	311221AYVW	2046400	2046400
3111114YVW	2047400	2047400	3112114111	2041213	2041213	311221W	20460	20460
311111W	20470	20470	3112114121	2041219	2041219	311221WYVW	2046000	2046000
311111WYVW	2047000	2047000	3112114YVW	2041200	2041200	311221WYVW	2046002	2046002
311111YVWY	2047002	2047002	3112117	20413	20413	3112221	20751	20751
3111191	20481	20481	3112117111	2041311	2041311	3112221111	2075113	2075113
3111191111	2048111	2048111	3112117121	2041315	2041315	3112221221	2075115	2075115
311119121	2048115	2048115	3112117131	2041321	2041321	3112221231	2075121	2075121
3111191231	2048116	2048116	3112117141	2041323	2041323	3112221241	2075131	2075131
3111191341	2048118	2048118	3112117151	2041365	2041365	3112221YVW	2075100	2075100
3111191351	2048121	2048121	3112117161	2041393	2041393	3112224	20752 pt	20752 pt
3111191361	2048122	2048122	3112117171	2041395	2041395	3112224111	2075211	2075211
3111191371	2048123	2048123	3112117181	2041397	2041397	3112224221	2075231	2075231
3111191381	2048124	2048124	3112117YVW	2041300	2041300	3112224231	2075251	2075251
3111191391	2048131	2048131	311211A	20415	20415	3112224241	2075261	2075261
31111913A1	2048132	2048132	311211A111	2041511	2041511	3112224261	2075297	2075297
31111913B1	2048133	2048133	311211A121	2041513	2041513	3112224YVW	2075200 pt	2075200 pt
31111913C1	2048134	2048134	311211A131	2041515	2041515	311222W	20750 pt	20750 pt
3111191YVW	2048100	2048100	311211A141	2041521	2041521	311222WYVW	2075000 pt	2075000 pt
3111194	20482	20482	311211A151 pt	2041530 pt	2041530 pt	311222WYVW	2075002 pt	2075002 pt
3111194100	2048200	2048200	311211A151 pt	2041530 pt	2041530 pt	3112231	20741	20741
3111197	20483	20483	311211A161 pt	2041590 pt	2041581	3112231100	2074100	2074100
3111197111	2048301	2048301	311211A161 pt	2041590 pt	2041585	3112234	20742	20742
3111197121	2048302	2048302	311211A161 pt	2041590 pt	2041586	3112234100	2074200	2074200
3111197YVW	2048300	2048300	311211A161 pt	2041590 pt	2041588	3112237	20743	20743
311119A	20484	20484	311211A171 pt	2041596 pt	2041589	3112237100	2074300	2074300
311119A100	2048400	2048400	311211A171 pt	2041596 pt	2041592	311223A	20744 pt	20744 pt
311119D	20485	20485	311211A171 pt	2041596 pt	2041595	311223A111	2074414	2074414
311119D111	2048503	2048503	311211AYVW	2041500	2041500	311223A221	2074451	2074451
311119D121	2048504	2048504	31121D pt	20343 pt	20343 pt	311223A231	2074498	2074498
311119DYVW	2048500	2048500	311211D pt	20416	20416	311223AYVW	2074400 pt	2074400 pt
311119G	20486	20486	311211D11 pt	2034338	2034339 pt	311223D	20761	20761
311119G100	2048600	2048600	311211D111 pt	2041613	2041613	311223D111	2076113	2076113
311119J	20487	20487	311211D121	2041627	2041627	311223D121	2076133	2076133
311119J111	2048705	2048705	311211DYVW pt	2034300 pt	2034300 pt	311223DYVW	2076100	2076100
311119J121	2048706	2048706	311211DYVW pt	2041600	2041600	311223G	20762	20762
311119JYVW	2048700	2048700	311211W pt	20340 pt	20340 pt	311223G111	2076223	2076223
311119M	20488	20488	311211W pt	20410	20410	311223G121	2076252	2076252
311119M111	2048811	2048811	311211WYVW pt	2034000 pt	2034000 pt	311223G131	2076257	2076257
311119M121	2048812	2048812	311211WYVW pt	2041000	2041000	311223G141	2076262	2076262
311119M131	2048813	2048813	311211WYVW pt	2034002 pt	2034002 pt	311223G151	2076263	2076263
311119M141	2048816	2048816	311211WYVW pt	2041002	2041002	311223G161	2076264	2076264
311119M151	2048821	2048821	3112120	20440	20440	311223G171	2076265	2076265
311119M161	2048823	2048823	3112120111	2044011	2044011	311223G181	2076268	2076268
311119M171	2048825	2048825	3112120221	2044015	2044015	311223G191	2076273	2076273
311119M181	2048831	2048831	3112120331	2044017	2044017	311223GYVW	2076200	2076200
311119M191	2048833	2048833	3112120441	2044021	2044021	311223J	20763 pt	20763 pt
311119MYVW	2048800	2048800	3112120451	2044035	2044035	311223J111	2076311	2076311
311119P	20489 pt	20489 pt	3112120461	2044051	2044051	311223J121	2076351	2076351
311119P111	2048911	2048911	3112120471	2044098	2044098	311223J131	2076361	2076361
311119P121	2048922	2048922	3112120481	2044093	2044093	311223J141	2076397	2076397
311119P131	2048935	2048935	3112120YVW	2044000	2044000	311223JYVW	2076300 pt	2076300 pt
311119P141	2048939	2048939	3112120YVW	2044002	2044002	311223W pt	20740 pt	20740 pt
311119P151	2048943	2048943 pt	3112120	20830	20830	311223W pt	20760 pt	20760 pt
311119PYVW	2048900 pt	2048900 pt	3112120100	2083000 pt	2083000 pt	311223WYVW pt	2074000 pt	2074000 pt
311119T	2048A	2048A	3112120300	2083000 pt	2083000 pt	311223WYVW pt	2076000 pt	2076000 pt
311119T111	2048A01	2048A01	31121203YVW	2083000 pt	2083000 pt	311223WYVW pt	2074002 pt	2074002 pt
311119T121	2048A03	2048A03	3112120YVW	2083002	2083002	311223WYVW pt	2076002 pt	2076002 pt
311119T131	2048A05	2048A05	3112211	20461	20461	3112251	20744 pt	20744 pt
311119T141	2048A07	2048A07	3112211111	2046103	2046103	3112251 pt	20752 pt	20752 pt
311119T151	2048A09	2048A09	3112211121	2046104	2046104	3112251 pt	20763 pt	20763 pt
311119T161	2048A11	2048A11	3112211131 pt	2046114 pt	2046113	3112251 pt	20773 pt	20773 pt
311119T171	2048A12	2048A12	3112211131 pt	2046114 pt	2046118	3112251 pt	20791	20791
311119T181	2048A19	2048A19	3112211141	2046123	2046123	3112251111	2079113	2079113
311119TYVW	2048A00	2048A00	3112211251	2046125	2046125	3112251221	2079115	2079115
311119W	20480 pt	20480 pt	3112211261	2046125	2046125	3112251331	2079142	2079142
311119WYVW	2048000 pt	2048000 pt	3112211271	2046125	2046125	3112251441	2079151	2079151
311119WYVW	2048002 pt	2048002 pt	3112211371	2046129	2046129	3112251551	2079152	2079152
3112111	20411	20411	3112211YVW	2046100	2046100	3112251561	2079153	2079153
3112111111	2041105	2041105	3112214	20462	20462	3112251571	2079154	2079154
3112111221	2041107	2041107	3112214111	2046211	2046211	3112251581	2079159	2079159
3112111331	2041111	2041111	3112214221	2046213	2046213			
3112111441	2041113	2041113	3112214331 pt	2046218 pt	2046217			
3112111551	2041115	2041115	3112214YVW	2046200	2046200			

Table with 10 columns: 1997 published, 1997 collected, 1992 published, 1997 published, 1997 collected, 1992 published, 1997 published, 1997 collected, 1992 published. It lists various product codes and their associated years.

