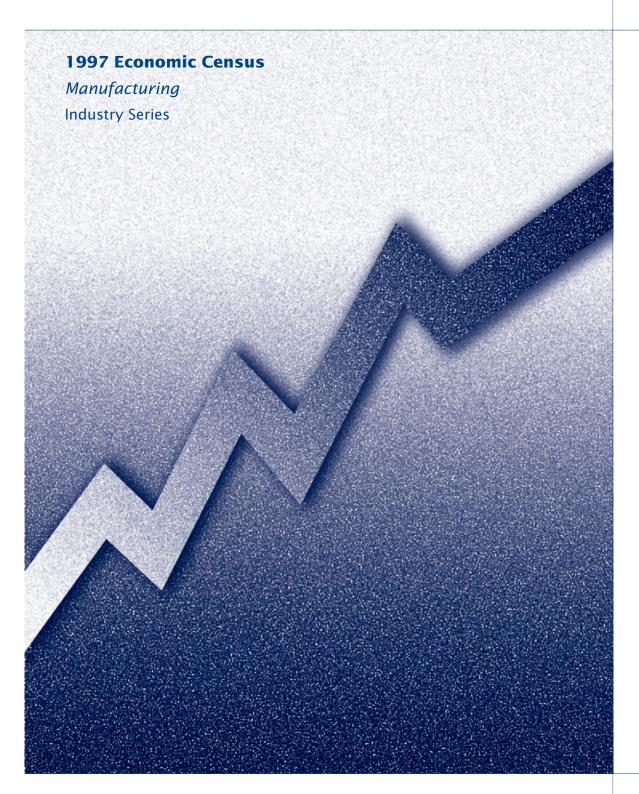
## Meat Processed From Carcasses

1997

ssued November 1999

EC97M-3116B



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#### **1997 Economic Census**

Manufacturing
Industry Series





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	Not applicable for this report.	

#### Introduction to the Economic Census

#### PURPOSES AND USES OF THE ECONOMIC CENSUS

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

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

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

#### ALL-NEW INDUSTRY CLASSIFICATIONS

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

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

52 Finance and Insurance 53

Real Estate and Rental and Leasing 54 Professional, Scientific, and Technical Services

55 Management of Companies and Enterprises 56 Administrative and Support and Waste

Management and Remediation Services

61 **Educational Services** 

Health Care and Social Assistance 62

Arts. Entertainment, and Recreation 71

72 Accommodation and Foodservices

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 Service Sector Statistics Division

301-457-4673 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/econquide. 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:

- Α 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 rev-
- Ν Not available or not comparable.
- Revenue not collected at this level of detail for Q multiestablishment firms.
- S Withheld because estimates did not meet publication standards.

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

1997 ECONOMIC CENSUS INTRODUCTION 3 This page is intentionally blank.

### 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

U.S. Census Bureau, 1997 Economic Census

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, semiindependent 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]

Total capital
expendi- tures
(\$1,000)
527 238
506 079 21 159
-

<sup>&</sup>lt;sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control. <sup>2</sup>Includes 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]

Colates that are disclosures of with less t			All		oloyees	<u> </u>	oduction work					
Industry and geographic area	E¹	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311612, MEAT PROCESSED FROM CARCASSES												
United States	1	1 297	622	87 966	2 324 454	69 972	141 537	1 565 896	9 136 468	15 846 455	25 005 485	527 238
Alabama Arizona Arkansas California Colorado	3	9 8 9 123 21	5 2 6 60 8	541 159 1 214 4 779 555	12 406 3 670 27 468 128 266 13 521	382 126 1 035 3 793 436	812 202 2 076 7 127 889	7 465 2 092 22 815 81 426 9 318	24 267 7 550 84 223 466 805 51 064	71 452 18 004 197 906 687 633 118 835	95 986 25 785 280 897 1 147 254 172 609	2 176 611 3 819 31 748 4 151
Connecticut	1 2 - 3 1	21 38 32 10 94	9 11 17 2 51	746 2 348 2 972 125 6 515	21 836 54 361 70 634 2 298 197 266	507 1 871 2 354 96 5 110	1 073 3 613 4 722 141 10 430	11 762 35 198 46 174 1 325 128 818	65 940 207 877 254 356 7 862 719 682	105 868 363 898 432 556 7 378 1 185 821	164 083 564 691 684 393 15 244 1 910 905	2 450 8 840 9 422 332 36 775
Indiana lowa Kansas Kentucky Louisiana	1 - - 3	15 40 20 15 30	10 24 13 7 8	1 326 4 764 2 574 1 260 801	33 178 133 528 59 944 34 964 21 453	1 063 4 058 2 193 815 598	2 308 8 013 4 403 1 826 1 078	21 958 101 224 44 757 24 673 11 034	131 020 874 910 233 727 217 759 53 681	265 228 1 546 003 455 199 181 823 121 715	396 948 2 437 711 691 940 396 720 175 576	7 339 90 624 9 427 5 235 3 027
Maryland Massachusetts Minnesota Missouri Montana	3	13 26 21 23 12	8 10 11 10 2	778 1 192 2 004 1 820 180	15 438 31 061 49 999 47 082 3 940	590 779 1 529 1 596 141	1 212 1 813 3 046 3 607 216	10 656 15 836 28 309 34 289 2 593	58 523 113 164 120 816 360 918 10 198	71 208 199 489 329 405 274 345 20 923	130 118 314 713 448 403 635 818 31 267	885 7 033 6 385 10 724 697
Nebraska	1 3 2 1 -	21 49 96 40 46	15 22 34 22 23	3 369 1 815 2 419 3 290 4 638	73 250 67 485 75 322 69 833 128 525	2 817 1 400 1 744 2 599 3 580	5 513 2 880 3 619 4 989 7 411	54 538 37 427 45 237 47 622 80 107	211 867 181 926 397 776 125 325 454 459	557 645 255 549 810 223 352 273 907 694	770 789 435 723 1 209 648 481 033 1 374 726	13 151 10 231 25 232 13 664 32 781
Oklahoma	- 3 2 1 -	16 26 74 9 23	9 11 46 2 11	1 759 1 069 5 169 167 1 046	43 232 24 447 149 440 5 178 22 341	1 483 889 3 968 140 750	2 928 1 741 7 946 300 1 458	31 923 16 421 97 528 3 306 14 211	112 029 68 626 428 093 16 296 76 152	305 548 119 217 1 061 078 23 518 174 081	421 843 186 994 1 490 660 41 543 250 938	17 543 5 028 25 473 826 3 257
Texas Virginia Washington Wisconsin	3	99 25 30 53	49 15 12 27	7 296 2 655 1 152 10 000	183 950 57 754 29 024 291 529	6 036 2 156 963 8 247	12 853 4 364 1 726 16 793	124 195 42 660 23 099 217 061	1 094 088 213 634 121 619 1 220 072	1 475 332 362 884 176 270 1 727 625	2 570 399 576 613 303 564 2 951 126	36 365 9 547 6 621 58 670

<sup>\*</sup> 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
311612, MEAT PROCESSED FROM CARCASSES		311612, MEAT PROCESSED FROM CARCASSES—	
Companies <sup>1</sup> number	1 164		0 400 400
All establishments number .  Establishments with 1 to 19 employees number .  Establishments with 20 to 99 employees number .  Establishments with 100 employees or more number	1 297 675 386 236		9 136 468 1 248 142 696 700 159 205 392 237
All employees         number.           Total compensation²         \$1,000.           Annual payroll.         \$1,000.           Total fringe benefits         \$1,000.	87 966 2 930 284 2 324 454 605 830	Total inventories, end of year \$1,000 . Finished goods inventories, end of year \$1,000 . Work-in-process inventories, end of year \$1,000 . Materials and supplies inventories, end of year \$1,000 .	1 266 989 687 468 145 875 433 646
Production workers, average for year	69 972 69 242 69 495 70 288	Total capital expenditures (new and used)	4 841 288 527 238 145 145
Production workers on November 12 number.  Production-worker hours 1,000. Production-worker wages \$1,000.	70 863 141 537 1 565 896	Capital expenditures for machinery and equipment (new and used) \$1,000.  Total retirements <sup>2</sup> \$1,000.	382 093 91 836 5 276 690
Total cost of materials	15 846 455 14 057 872 1 486 636 75 942 169 001 57 004	Machinery and equipment rental payments \$1,000.  Cost of purchased services for the repair of buildings and other	343 286 124 790 49 890 74 900
Quantity of electricity purchased for heat and power1,000 kWh Quantity of electricity generated less sold for heat and power1,000 kWh	D D		34 144 83
Total value of shipments         \$1,000.           Primary products value of shipments         \$1,000.           Secondary products value of shipments         \$1,000.           Total miscellaneous receipts         \$1,000.           Value of resales         \$1,000.           Contract receipts         \$1,000.           Other miscellaneous receipts         \$1,000.	25 005 485 21 503 930 1 781 742 1 719 813 1 647 076 27 386 45 351	Cost of purchased communications services <sup>3</sup> \$1,000.  Response coverage ratio <sup>4</sup> percent.  Cost of purchased legal services <sup>3</sup> \$1,000.  Response coverage ratio <sup>5</sup> percent.  Cost of purchased accounting and bookkeeping services <sup>3</sup> \$1,000.	156 341 83 160 533 83 8 114 83 11 149 83 89 428
Primary products specialization ratio	92 22 245 305 21 503 930 741 375	Response coverage ratio <sup>4</sup> percent Cost of purchased software and other data processing	83 5 923 83 87 500
Coverage ratio percent	96		87 500

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

<sup>&</sup>lt;sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>These 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.

<sup>3</sup>Based on ASM sample data.

<sup>4</sup>A 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.

#### Table 4. Industry Statistics by Employment Size: 1997

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

			All	All em	oloyees	Pr	oduction work	ers				
Employment size class	E¹	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311612, MEAT PROCESSED FROM CARCASSES												
All establishments	1	1 297	622	87 966	2 324 454	69 972	141 537	1 565 896	9 136 468	15 846 455	25 005 485	527 238
Establishments with 1 to 4 employees		293 176	- -	619 1 175	19 399 23 454	497 938	707 1 430	13 698 16 488	34 765 136 413	75 520 138 720	110 712 275 307	4 447 7 356
employees Establishments with 20 to 49	6	206	_	2 867	66 149	2 244	3 691	43 137	195 312	348 760	544 359	12 961
employees Establishments with 50 to 99	2	246	246	7 813	195 443	5 779	10 505	113 339	548 283	1 148 924	1 695 874	35 127
employees Establishments with 100 to 249	2	140	140	9 753	267 947	7 492	14 710	168 610	957 333	1 675 246	2 636 549	44 171
employees Establishments with 250 to 499	1	143	143	23 298	630 160	18 317	38 393	408 193	2 754 662	4 941 873	7 697 172	191 650
employees Establishments with 500 to 999	1	68	68	23 983	619 997	19 510	40 968	429 436	2 264 469	4 347 055	6 618 275	120 934
employees Establishments with 1,000 to 2,499	1	22	22	13 512	347 876	10 739	21 780	241 365	1 531 515	2 347 632	3 889 229	88 332
employees Establishments with 2,500 employees	-	2	2	D	D	D	D	D	D	D	D	D
or more	-	1	1	D	D	D	D	D	D	D	D	D
Administrative records <sup>2</sup>	9	447	_	3 183	61 122	2 580	3 765	42 893	168 567	366 617	536 103	14 314

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 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		All	All employees		Production workers			Value added			Total capital
industry or product class code	Industry or primary product class	estab- lish- ments	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	expendi- tures (\$1,000)
311612	Meat processed from carcasses	1 297	87 966	2 324 454	69 972	141 537	1 565 896	9 136 468	15 846 455	25 005 485	527 238
3116121	Pork, processed or cured, including frozen, not canned or made into sausage, not made in meat packing										
3116124	plants	143	21 501	537 316	17 908	38 026	381 676	1 838 595	3 778 095	5 635 458	177 282
3116127	plants	237	29 204	809 486	22 332	45 964	532 042	3 756 627	4 734 295	8 505 749	173 505
311612A	more meat, not made in meat packing plants	15	2 422	72 046	1 913	3 765	49 557	579 791	406 549	984 710	12 963
	meats, not made in meat packing plants, nec	260	26 060	700 190	20 820	42 199	462 291	2 449 644	5 726 070	8 164 688	117 288

#### 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]

			19	997			19	992	
NAICS		Number of companies		Product	shipments	Number of companies		Product	shipments
product code	Product	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)
311612	Meat processed from carcasses	N	х	х	22 245 305	N	х	х	N
3116121	Pork, processed or cured, including frozen, (not canned or made into sausage), not made in meat packing plants	N	х	x	5 068 381	N	x	х	N
31161211	Pork, processed or cured, including frozen, not canned or made into sausage, not made in meat packing								
3116121111	plants Sweet-pickled or dry-cured pork (not smoked, cooked, canned, or made into sausage), not made in meat	N	Х	X	162 678	N	X	Х	N
3116121121	packing plants \$ mil lb  Dry salt pork, not canned or made into sausage, not made in meat packing plants \$ mil lb	39	×	71.4 910.3	151 446 11 232	17	x x	89.1 S	140 123 17 819
31161212	Smoked pork hams and picnics (not	10	^	10.0	11 202	10	^	J	17 010
3116121231	otherwise cooked), except canned, not made into sausage	N 111	x x	Y 91 189.4	2 207 952	N 105	x x	X 1 052.8	N 1 425 811
31161213	Smoked pork slab bacon (not otherwise		^	1 100.4	2 207 332	103	^	1 002.0	1 423 011
3116121341	cooked), except canned, not made in meat processing plants	N	Х	x	59 432	N	x	Х	N
31161214	meat packing plants \$	37	Х	944.2	59 432	26	X	24.5	20 670
3116121451	Smoked pork sliced bacon (not otherwise cooked), except canned, not made in meat packing plants	N	x	×	1 627 513	N	x	x	N
	otherwise cooked), except canned, not made in meat packing plants \$mil lb	59	Х	925.7	1 627 513	51	x	916.1	947 538
31161215	Other smoked pork (not otherwise cooked), not canned or made into sausage, not made in meat packing plants.	N	X	×	122 595	N	x	x	N
3116121561	Other smoked pork (not otherwise cooked), not canned or made into sausage, not made in meat packing plants \$	49	X	78.4	122 595	48	x	P144.7	138 188
31161216	Boiled ham, barbecue pork, and other cooked pork, including frozen, except canned meats and sausage, not made in		^		122 000				100 100
3116121671	meat packing plants  Boiled ham, barbecue pork, and other cooked pork, except canned meats and sausage, not made in meat	N	Х	x	525 384	N	x	Х	Ν
	packing plants \$ mil lb	53	Х	9238.4	525 384	47	x	415.6	627 160
31161217 3116121781	Lard, except canned, not made in meat packing plants	N	Х	x	43 305	N	x	Х	N
3116121Y	packing plants mil lb  Pork, processed or cured, including	11	Х	P173.5	43 305	N	X	N	N
3116121YWV	frozen, not canned or made into sausage, nsk	N	Х	x	319 522	N	x	Х	N
3116124	sausage, nsk	N N	×	×	319 522 6 527 185	N N	x x	X X	N
31161241	Fresh sausage (pork sausage, breakfast	"	^	^	0 327 103		^	^	
3116124111	links, etc.), except canned, not made in meat packing plants	N	Х	x	1 087 776	N	x	Х	Ν
31161242	not made in meat packing plants \$ mil lb	140	Х	9624.5	1 087 776	129	X	557.6	839 795
3116124221	pepperoni, beef jerky, summer sausage, pork roll, etc.), except canned, not made in meat packing plants  Dry or semidry (salami, cervelat, beef jerky, pepperoni, beef jerky, summer	N	х	x	1 188 597	N	х	х	N
	sausage, pork roll, etc.), not made in meat packing plants \$	73	х	₽585.1	1 188 597	92	x	х	944 348
31161243	Frankfurters, including wieners, except canned, not made in meat packing				4 540 000			**	
3116124331	plants. Frankfurters, including wieners, not made in meat packing plants \$	112	X X	774.4	1 546 093 1 546 093	123	x x	X 1 026.4	1 205 626

See footnotes at end of table.

#### 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]

			19	97			19	992	
NAICS product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product	value (\$1,000)	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product	shipments  Value (\$1,000)
311612	Meat processed from carcasses—Con.	or more	ригрозсо	Quartity	(ψ1,000)	or more	ригроссо	Quantity	(ψ1,000)
3116124	Sausage and similar products, (not canned), not made in meat packing plants—Con.								
31161244	Other sausage, smoked or cooked, and jellied goods and similar preparations, not canned, not made in meat packing								
3116124441	plants Other sausage, smoked or cooked (bologna, liverwurst, Polish sausage, packaged luncheon meats, minced	N	Х	Х	2 701 239	N	X	Х	N
3116124451	roll, smoked pork sausage, etc.), not made in meat packing plants \$	175	×	P1 601.3	2 646 881 54 358	194	x	1 784.0	2 287 726 60 667
3116124Y	Sausage and similar products, not								
3116124YWV	canned, nsk Sausage and similar products, not canned, nsk	N N	X X	X X	3 480 3 480	N N	X X	X X	N N
3116127	Canned meats (except dog, cat, and baby food), containing 20 percent or more meat, not made in meat packing plants	N	х	x	989 828	N	x	x	903 701
31161271	Canned meats (except dog, cat, and baby food), containing 20 percent or more meat, not made in meat packing plants	N	х	x	989 828	N	x	x	N
3116127100	Canned meats (except dog, cat, and baby food), containing 20 percent or more meat, not made in meat packing plants \$	26	x	s	989 828	32	x	s	903 701
311612A	Other processed, frozen, or cooked meats, not made in meat packing plants, nec	N	X	x	7 737 181	N	X	X	N
311612A1	Boxed meat (beef, pork, lamb, etc.) not	,	V	v	4 400 407			V	
311612A111	made in slaughtering plants	N 80	X X	X 486.9	1 463 427 1 463 427	N N	X X	X X	N N
311612A2	Frozen ground meat patties (processed, frozen, or cooked), not made in meat packing plants	N	х	x	1 759 429	N	x	X	N
311612A221	Frozen ground meat patties (processed, frozen, or cooked), not made in meat packing plants	76	х	1 447.2	1 759 429	60	x	х	1 611 662
311612A3	Frozen portion control meats (processed, frozen, or cooked), not made in meat packing plants	N	x	х	1 060 563	N	x	x	N
311612A331	Frozen portion control meats (processed, frozen, or cooked), not made in meat packing plants	49	X	s	1 060 563	43	x	P644.5	1 034 947
311612A4	Other processed, frozen, or cooked meats, not made in meat packing								
311612A441	plants Pork rind pellets, including pork cracklings (processed, frozen, or cooked), not made in meat packing	N	Х	Х	3 240 774	N	X	Х	N
311612A451	plantsmil lb Other processed, frozen, or cooked meats, corned beef, frozen primal and	7	Х	P123.7	120 206	5	х	D	D
311612A461	fabricated cuts, frozen variety meats, etc., not made in meat packing plants mil lb Collagen sausage casings (processed, frozen, or cooked), not made in meat	186	X	P1 513.7	2 994 064	152	X	1 960.8	2 838 929
044040457	packing plants	9	Х	S	126 504	6	X	D	D
311612AY 311612AYWV	Other processed, frozen, or cooked meats, nsk Other processed, frozen, or cooked meats, nsk	N N	x x	x x	212 988 212 988	N N	x x	x x	N
311612W	meats, nsk  Meat processed from carcasses, nsk, total	N N	X	X	1 922 730	N	X	X	N N
311612WY	Meat processed from carcasses, risk, total  Meat processed from carcasses, risk,	"	^	^	1 322 /30	"	^	^	IN
311612WY 311612WYWW	total	N	Х	X	1 922 730	N	x	Х	N
311612WYWY	establishments Meat processed from carcasses, nsk, for administrative-record	N	X	Х	1 419 267	N	X	X	N
	establishments	N	Х	Х	503 463	N	Х	Х	1

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.

<sup>#</sup> 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 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	Product class and geographic area	Value of product shipments (\$1,000)	S
code		1997	199
116121	PORK, PROCESSED OR CURED, INCLUDING FROZEN, (NOT CANNED OR MADE INTO SAUSAGE), NOT MADE IN MEAT PACKING PLANTS		
	United States	5 068 381	I
	Alabama	22 589	
	California	40 971	
	Connecticut	11 065   117 388	
	Georgia	218 966	
	Illinois	279 987   140 656	
	lowa	524 882	
	Kansas	266 679 73 587	
	Louisiana	29 882	
	Michigan	30 425 7 993	
	Missouri Nebraska	251 850 313 264	
		106 182	
	New Jersey	148 695	
	North Carolina	236 588 749 748	
	Pennsylvania	140 545	
	Tennessee	50 209 289 562	
	Texas	155 020	
	Washington	29 366 333 929	
146404	SAUSAGE AND SIMILAR PRODUCTS, (NOT CANNED), NOT MADE IN MEAT PACKING		
116124	PLANTS		
	United States	6 527 185	
	Alabama	12 225	
	California. Connecticut	312 582 17 577	
	Florida	229 388	
	Georgia	35 595	
	Illinois	608 504   533 843	
	Kansas	249 965	
	Louisiana	27 045 19 653	
	Massachusetts	141 045	
	Michigan	206 078 61 360	
	Mississippi	14 359 14 218	
	Missouri		
	Nebraska	158 686 92 788	
	New York North Carolina	47 309   114 686	
	Ohio	197 628	
	Oklahoma	99 929 60 137	
	Pennsylvania	354 505	
	TexasVirginia	912 291   222 594	
	Washington	42 008 1 171 537	
	WISCOIDIII.	1 171 337	
16127	CANNED MEATS (EXCEPT DOG, CAT, AND BABY FOOD), CONTAINING 20 PERCENT OR MORE MEAT, NOT MADE IN MEAT PACKING PLANTS		
	United States	989 828	903 70
		333 323	
1612A	OTHER PROCESSED, FROZEN, OR COOKED MEATS, NOT MADE IN MEAT PACKING		
	PLANTS, NEC		
	United States	7 737 181	
	Arizona	20 637 260 616	
	California	415 911	
	Colorado	103 327 93 386	
	Florida	44 915	
	Georgia Illinois	205 188 759 481	
	Indiana	55 008	
	lowa	534 500	
	Kansas Kentucky	200 817 34 052	
	Massachusetts	38 893	
	Michigan	15 646   187 467	
	Missouri	135 025	
	Nebraska New Jersey.	216 774 101 667	

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	Product class and geographic area	Value of product shipments (\$1,000)				
code		1997	1992			
311612A	OTHER PROCESSED, FROZEN, OR COOKED MEATS, NOT MADE IN MEAT PACKING PLANTS, NEC-Con.					
	Ohio . Oregon Pennsylvania Tennessee Texas Virginia Wisconsin	60 619 757 252	N N N N N N N			

#### 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]

	as apportances <sub>1</sub>					
NAICS		19	97	1992		
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)	
311612	MEAT PROCESSED FROM CARCASSES					
11211001 11211005 11211003 11241005 11241003	Cattle slaughtered (live weight) mil lb. Calves slaughtered (live weight) mil lb. Cattle slaughtered (number of head) 1,000 Sheep and lambs slaughtered (number of head) 1,000 Sheep and lambs slaughtered (live weight) mil lb.	D 3 011.9 5.2 D 180.5	D - 1 356 D -	Z Z Z Z Z Z	N N N N	
11221003 11221001 11211007 31161107 31161109	Hogs slaughtered (number of head) 1,000 Hogs slaughtered (live weight) . mil lb. Calves slaughtered (number of head) 1,000 Fresh and frozen beef mil lb Fresh and frozen veal mil lb	266.7 51 537.8 D 4 197.3 929.1	29 536 - D 4 440 190 54 293	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	N N N N	
31161113 31161111 31161101 31161117 31161103	Fresh and frozen pork mil lb. Other fresh and frozen red meats mil lb. Meat materials for sausage and canning not separable by species mil lb. Processed pork (cured, smoked, etc.) mil lb. Other purchased meat materials (cured beef, cured lamb, etc.) mil lb.	P4 440.7 144.0 147.4 313.0 96.1	3 928 522 145 615 333 141 366 003 116 932	Z Z Z Z Z Z	N N N N	
00190032 31194201 31161119 31161200 32610023	Poultry; live, fresh, frozen, or prepared Spices and curing materials Hides, skins, and pelts Animal and collagen casings Synthetic casings, including cellulosic and fibrous reinforced	X X X X	557 614 435 983 D 88 962 201 849	X X X X	N N N N	
32221001 001900A1 00970099 00971000	Paperboard containers, boxes, and corrugated paperboard Packaging paper and plastics film, coated and laminated. All other materials and components, parts, containers, and supplies. Materials, ingredients, containers, and supplies, n.s.k.	X X X	309 463 349 702 517 438 2 159 884	X X X	N N N N	

<sup>#</sup> Additional information is available for this item; see Appendix F.

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

<sup>#</sup> 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.

## 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:

- 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.
- Cost of products bought and sold in the same condition.

- 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

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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 companyoperated 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 companyowned 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.

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## 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

#### **311612 MEAT PROCESSED FROM CARCASSES**

This U.S. industry comprises establishments primarily engaged in processing or preserving meat and meat byproducts (except poultry and small game) from purchased meats. This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased meats.

The data published with NAICS code 311612 include the following SIC industries:

2013 Sausages and other prepared meats 5147 Meat and meat products (pt)

## Appendix C. Coverage and Methodology

#### MAIL/NONMAIL UNIVERSE

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

 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" (nsk) 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.

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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.

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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 SICbased 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.

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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

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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, completecoverage 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.

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## Appendix D. Geographic Notes

Not applicable for this report.

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## Appendix E. Metropolitan Areas

Not applicable for this report.

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

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

NAICS product code	Footnote
\$ 3116121111	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.
\$ 3116121121	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.
\$ 3116121231	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.
\$ 3116121341	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.
\$ 3116121451	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.
\$ 3116121561	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.
\$ 3116121671	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.
\$ 3116124111	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.
\$ 3116124221	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.
\$ 3116124331	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.
\$ 3116124441	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.
\$ 3116124451	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.
\$ 3116127100	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
3111111	2047323	20473 2047321 2047323	3112111561 3112111671 3112111681	2041123	2041117 2041121 2041123	3112217 3112217111 3112217121	20463	20463 2046353 2046354
3111111231 3111111341 3111111YWV	2047300	2047300	3112111791 31121117A1 31121117B1 31121118C1	2041126	2041126 2041129 2041128 2041131	3112217131 3112217141 3112217YWV	2046300	2046300
3111114 3111114111 3111114221 3111114231	20474	2047443	31121118D1 31121118E1 31121118F1 3112111YWV	2041151 2041161 2041198	2041151 2041161 2041198	311221A 311221A111 311221A221 311221A231	20464	20464 2046462 2046465 2046472
3111114341 3111114351 3111114YWV	2047454 2047457 2047400	2047454 2047457 2047400	3112114 3112114111 3112114121	20412 2041213	20412 2041213 2041219	311221A241	2046475 2046400 20460	2046475 2046400 20460
311111W	20470	20470 2047000 2047002	3112114YWV 3112117 3112117	2041210 2041200 20413		311221WYWW	2046000	2046000 2046002 20751
3111191 3111191111 3111191121 3111191231	2048115	20481 2048111 2048115 2048116	3112117121 3112117131 3112117141	2041315 2041321 2041323	2041315 2041321 2041323	3112221111 3112221221 3112221231 3112221241	2075113 2075115 2075121 2075131	2075113 2075115 2075121 2075131
3111191341 3111191351 3111191361	2048118 2048121 2048122	2048118 2048121 2048122	3112117151 3112117161 3112117171 3112117181	2041365 2041393 2041395 2041397	2041365 2041393 2041395 2041397	3112221YWV 3112224 3112224111	2075100 20752 pt	2075100 20752 pt 2075211
3111191371 3111191381 3111191391 31111913A1	2048124 2048131 2048132	2048123 2048124 2048131 2048132	3112117YWV 311211A 311211A111	2041300 20415 2041511	2041300 20415 2041511	3112224221 3112224231 3112224241 3112224261	2075231	2075231 2075251 2075261 2075297
31111913B1 31111913C1 3111191YWV		2048133 2048134 2048100	311211A121 311211A131 311211A141 311211A151 pt	2041513	2041513 2041515 2041521 2041517	3112224YWV 311222W 311222W	2075200 pt 20750 pt 2075000 pt	2075297 2075200 pt 20750 pt 2075000 pt
3111194 3111194100 3111197 3111197111	20482	20482 2048200 20483 2048301	311211A151 pt 311211A151 pt 311211A161 pt 311211A161 pt	2041530 pt 2041530 pt 2041590 pt 2041590 pt	2041525 2041581	311222WYWY 3112231 3112231100	2075002 pt 20741 2074100	2075002 pt 20741 2074100
3111197121 3111197YWV 311119A	2048301 2048302 2048300	2048301 2048302 2048300 20484	311211A161 pt 311211A161 pt 311211A161 pt	2041590 pt 2041590 pt 2041590 pt	2041586 2041588 2041589	3112234 3112234100	20742 2074200	20742 2074200
311119A100 311119D 311119D111	2048400 20485 2048503	2048400 20485 2048503	311211A171 pt 311211A171 pt 311211A171 pt 311211AYWV	2041596 pt 2041596 pt 2041596 pt 2041500	2041591 2041592 2041595 2041500	3112237 3112237100 311223A 311223A111	20743	20743 2074300 20744 pt 2074414
311119D121	2048504	2048504 2048500 20486	311211D pt	20343 pt	20343 pt 20416	311223A221 311223A231 311223AYWV	2074451	2074451
311119G100	2048600 20487 2048705	2048600 20487 2048705	311211D111 pt 311211D111 pt 311211D121 311211DYWV pt	2034338	2041613 2041627 2034300 pt	311223D	20761	20761 2076113 2076133 2076100
311119J121 311119JYWV	20488	2048706 2048700 20488	311211DYWV pt 311211W pt	20340 pt	20340 pt	311223G	20762	2076100 20762 2076223 2076252
311119M111	2048811	2048811 2048812 2048813 2048816	311211W pt 311211WYWW pt 311211WYWW pt 311211WYWY pt	2041000	20410 2034000 pt 2041000 2034002 pt	311223G131 311223G141 311223G151 311223G161	2076257 2076262 2076263 2076264	2076257 2076262 2076263 2076264
311119M151	2048821 2048823 2048825 2048831	2048821 2048823 2048825 2048831	311211WYWY pt 3112120	20440	2041002 20440 2044011	311223G171 311223G181 311223G191 311223GYWV	2076265 2076268 2076273 2076200	2076265 2076268 2076273 2076200
311119M191	2048833 2048800 20489 pt	2048833 2048800 20489 pt	3112120221 3112120331 3112120441 3112120451	2044015 2044017 2044021 2044035	2044015 2044017 2044021 2044035	311223J	20763 pt	2076200 20763 pt 2076311 2076351
311119P111 311119P121 311119P131 311119P141	2048935	2048935 2048939	3112120461 3112120471 3112120481 3112120YWW	2044093 2044000	2044051 2044098 2044093 2044000	311223J131 311223J141 311223JYWV	2076361	2076361
311119P151	2048900 pt	2048900 pt 2048A	3112120YWY 3112130 3112130100	20830	2044002 20830 2083000 pt		20740 pt 20760 pt 2074000 pt	20760 pt 2074000 pt
311119T111 311119T121 311119T131 311119T141	2048A03	2048A03 2048A05	3112130YWW 3112130YWY	2083002	2083002	311223W pt 311223WYWW pt 311223WYWW pt 311223WYWY pt 311223WYWY pt		2076000 pt 2074002 pt 2076002 pt
311119T151 311119T161 311119T171 311119T181	2048A09	2048A09 2048A11 2048A12	3112211111 3112211121 3112211131 pt 3112211131 pt	2046103	2046103 2046104 2046113 2046116	3112251 pt 3112251 pt 3112251 pt	•	20744 pt 20752 pt 20763 pt
311119TYWV 311119W 311119WYWW	2048A00	2048A00 20480 pt	3112211141 3112211251 3112211261 3112211371	2046118	2046118 2046123 2046125 2046129	3112251 pt 3112251 pt	20773 pt 20791	20773 pt 20791
311119WYWY 3112111 3112111111	2048002 pt 20411 2041105	2048002 pt 20411 2041105	3112211YWV 3112214 3112214111	2046100 20462 2046211	2046100 20462 2046211	3112251111 3112251221 3112251331 3112251441	2079113 2079115 2079142 2079151	2079151
3112111221 3112111331 3112111441	2041107 2041111	2041107 2041111 2041113	3112214221 3112214331 pt	2046213 2046218 pt 2046218 pt	2046213 2046215 2046217	3112251551 3112251561 3112251571 3112251581	2079152	2079152 2079153 2079154

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31122515A1 31122515B1 31122515C1 31122515C1 3112251701 3112251706 3112251711 3112251721 3112251731	2076394 2076395	2079183 2079185 2079198 2077311 pt 2074499 2075299 2076391 2076394 2076395	3113207231 3113207241 3113207251 3113207360 3113207371	2066921 2066911 2066971 2066975 2066963 2066981	2066911 2066971 2066975 2066963 2066981 2066992 2066993	3114121 3114121111 3114121221 3114121331 3114121331 3114121341 3114121561 3114121561 3114121761 31141217781 31141217781	2038211 2038213 2038215 2038215 2038219 2038223 2038223 2038240 2038228 2038231	2038211 2038213 2038215 2038219 2038221 2038223 2038240 2038228 2038231
3112251741	2076398	2076398 2074400 pt 2075200 pt 2076300 pt 2077300 pt 2079100	311320W	20660	20660 2066000 2066002 20642 2064200	31141217B1 31141217C1 31141217D1 31141217E1 31141217F1 pt 31141217F1 pt 3114121YWV	2038238	2038238 2038239 2038247 2038243 2038245 2038249
311225W pt 311225W pt 311225W pt 311225W pt	20740 pt	20740 pt 20750 pt 20760 pt 20770 pt	311330W pt 311330W pt 311330W pt 311330WYWW pt 311330WYWW pt 311330WYWY pt	5441011	5441000 pt 20640 pt 54410 pt 2064000 pt 5441000 pt 2064002 pt	3114124	20384 2038451 2038459 2038463 2038469 2038400	20384 2038451 2038459 2038463 2038469 2038400
311225W pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWY pt 311225WYWY pt 311225WYWY pt 311225WYWY pt 311225WYWY pt	2075000 pt	2077000 pt 2079000 2074002 pt 2075002 pt 2076002 pt	3113401	5441002 pt	20643 2064300 54410 pt 5441000 pt 20648	3114211121 3114211131	2038002	2038000 2038002 20331 2033112 2033113 2033115 2033122
311225WYWY pt 3112301 3112301111 3112301121 3112301241 3112301351 3112301361	2079002	2079002 20431 2043101 2043103 2043105 2043107 2043109 2043111	3113404530 3113404YWV 3113407 pt. 3113407221 3113407221	2064814 2064815 2064800 20649 2099G pt 2064976 2099G95	2064815 2064800 20649 2099G pt 2064976 2099G98 pt	31142111D1	2033132 2033134 2033136 2033138 2033141 2033157 2033159	2033132 2033134 2033136 2033138 2033141 2033157 2033159
3112304121	2043116 2043118 2043119 2043100 20432 pt 2043201 2043203	2043100 20432 pt 2043201 2043203	3113407YWV pt 3113407YWV pt 311340W pt 311340W pt	2064921 2064900 2099000 pt 20640 pt 20990 pt	2064900 2099G00 pt 20640 pt 20990 pt 54410 pt	3114214 3114214111 3114214121	2033163 2033165 2033169 2033100 20332 2033203 2033203	2033163 2033165 2033169 2033100 20332 2033203 2033205
3112304131 3112304141 3112304151 31123047WV 311230WYWW 311230WYWW 311230WYWW	2043207 2043213 2043200 pt 20430 pt 2043000 pt 2043002 pt	2043207 2043209 pt 2043200 pt 20430 pt 2043000 pt 2043002 pt	311340WYWW pt 311340WYWW pt 311340WYWY pt 311340WYWY pt 311340WYWY pt 3114111	2064000 pt 2099000 pt 5441000 pt 2064002 pt 2099002 pt 5441002 pt 20371	2099000 pt 5441000 pt 2064002 pt 2099002 pt 5441000 pt 20371 2037135		2033235 2033237 2033239 2033253 2033255 2033274 2033275	2033235 2033237 2033239 2033253 2033255 2033274 2033275
3113110111 3113110221 3113110231 3113110231 31131107WW 31131107WY	2061011 2061065 2061085 2061000 2061002 20620 20620 206209	2061011 2061065 2061085 2061000 2061002 20620 2062009	3114111131 3114111141 3114111151 3114111261 3114111371 3114111481 3114111491		2037155 2037157 2037161 2037162	31142141D1 31142141E1 31142141F1 31142141G1 31142141H1 3114214YWV	2033291 2033293 2033294 2033295 2033297 2033298 2033200	2033291 2033293 2033294 2033295 2033297 2033298 2033200
3113120331 3113120441 3113120551 3113120561 3113120571 3113120581 3113120591	2062014 2062015 2062031 2062035 2062041 2062045 2062045 2062053	2062014 2062015 2062031 2062035 2062041 2062045 2062053 2062056	31141116B1	2037172 2037174 2037180 2037183 2037185 2037186 2037187	2037174 2037180 2037183 2037185 2037186	3114217 3114217111 3114217121 3114217YWV 311421A 311421A111 311421A121 311421AYWV	20333 2033315 2033321 2033300 20335 2033515 2033598 2033590	2033321 2033300 20335 2033515 2033598
31131205B1	2062000 2062000 2062002 20630 2063009 2063012 2063013 2063015 2063033	2062000	3114114 3114114111 3114114121 3114114131	2037197	2037197 2037100 20372 2037211 2037213 2037221	311421D	20336	2033631 pt 2033614 2033615 2033622 2033623 2033651
3113130561 3113130671 pt 3113130671 pt 3113130781 3113130791 31131308A1 31131309B1 31131307WW	2063035 2063035 pt 2063053 pt 2063053 pt 2063076 2063082 2063084 2063091 2063000 2063000	2063035 2063035 2063051 2063055 2063076 2063082 2063084 2063091 2063000 2063000	3114114151 3114114161 3114114171 3114114181 3114114191 31141142A1 31141143B1	2037231 2037233 2037235 2037241 2037242 2037245	2037231 2037233 2037235 2037241 2037242 2037245 2037248	311421D281 311421D291 311421D3A1 311421D3B1 311421D3C1 311421DYWV 311421G 311421G	2033667 2033691 2033658 2033659 2033660 2033600	2033667 2033691 2033631 pt 2033631 pt 2033631 pt 2033600
3113201	20661 2066122 2066112	20661 2066122 2066112 2066132 2066152 2066100	31141145D1 31141145E1 31141146F1 31141146G1 31141146H1 3114114YWV	2037253 2037255 2037261 2037263 2037269 2037200	2037253 2037255 2037261 2037263 2037269 2037200	311421G121 311421G131 311421G141 311421G151 311421G161 311421G171 311421G181 311421G191 311421G191	2033812 2033813 2033821 2033825 2033828 2033831 2033841 2033861	2033812 2033813 pt 2033821 2033825 2033813 pt 2033831 2033841 2033851
3113204000	2066200	2066200	1311411WYWY	2037002	2037002	311421GYWV	2033800	2033800

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
311421J 311421J111 311421J221 311421J231 311421J241 311421J251 311421J261	2033A25	2033A78	3115117 3115117111 3115117121 3115117131 3115117YWV	2026313	2026318 2026300 20265	3115200 3115200111 3115200221 3115200331 3115200441 3115200451	2024015	2024014 2024015 2024016 2024021 2024022
311421J271 311421JYWV 311421M 311421M111	2033A94	2033A94 2033A00 2033B 2033B12	311511A111 311511A121 311511AYWV	2026502	2026500 pt 2026500 pt 2026500 pt 20267	3115200471 3115200481 3115200491 31152005A1	2024025 2024026 2024027 2024035	2024099 pt 2024099 pt 2024099 pt 2024031 pt
311421M121 311421M131 311421MYWV 311421P 311421P111	20352	2033B19 2033B21 2033B00 20352 2035211	311511D111 311511D121 311511D131 311511D141 311511D151	2026711	2026714 2026716 2026717	31152005B1 31152005C1 31152005D1 31152005E1 31152005F1	2024037 2024094 2024096 2024052 2024054 2024071	2024094 2024096 2024052 2024054
311421P121 311421P131 311421P141 311421P151 311421P161 311421P171	2035215	2035213 2035215 2035219 2035221 2035231 2035233	311511DYWV 311511G 311511G111 311511G121 311511G131	2026700	2026700 20268 2026813 2026815	31152005H1 3115200YWW 3115200YWY 3116111	2024098	2024099 pt 2024000 2024002 20111
311421P181 311421P191 311421P1A1 311421P1B1 311421P1C1 311421PYWV	2035235	2035235 2035239 2035271 2035275 2035298 2035200	311511GYWV 311511W 311511WYWW 311511WYWY	2026800 20260 2026000	2026800 20260 2026000	3116111221 3116111331 3116111441 3116111551 3116111661 3116111671	2011114	2011114 2011116 2011118 2011131 2011151
311421W pt 311421W pt 311421WYWW pt 311421WYWW pt	20330	20330 20350 pt 2033000 2035000 pt	3115120 3115120111 3115120121 3115120131 3115120YWW	2021013 2021015 2021021 2021000	2021013 2021015 2021021 2021000	3116111YWV 3116114 3116114111 3116114121 3116114131	2011100 20112 2011212 2011217 2011261	2011100 20112 2011212 2011217 2011261
3114224	2035002 pt	2035002 pt 20321 2032100 20322	3115131	20223	20223 2022301 pt 2022302 pt 2022301 pt 2022302 pt	3116114YWV 3116117 3116117111 3116117121 3116117YWV	2011200 20113 2011312	2011200 20113 2011312 2011352
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