Other Animal Food Manufacturing

1997

Issued December 1999

EC97M-3111B

1997 Economic Census *Manufacturing* Industry Series

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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

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

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

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

ALL-NEW INDUSTRY CLASSIFICATIONS

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

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

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

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

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

RELATIONSHIP TO SIC

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

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

GEOGRAPHIC AREA CODING

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

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

BASIS OF REPORTING

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

DOLLAR VALUES

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

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

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

Special Tabulations

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

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

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

HISTORICAL INFORMATION

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

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

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

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

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

SOURCES FOR MORE INFORMATION

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

ABBREVIATIONS AND SYMBOLS

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

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

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

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Manufacturing

SCOPE

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

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

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

GENERAL

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

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

State reports, which include the District of Columbia, present similar statistics at the "all manufacturing" level for each state and its metropolitan areas (MAs) with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

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

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

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

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

GEOGRAPHIC AREAS COVERED

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

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

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

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

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, 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 or SIC code	Industry		All	All employees Production workers							Total capital	
		Com- panies ¹		Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	ufacture materials	Value of shipments (\$1,000)	expendi- tures (\$1,000)
311119 204810	Other animal food mfg Prepared feeds, n.e.c. (pt)		1 514 1 514	32 753 32 753	980 156 980 156	19 580 19 580		504 040 504 040	4 497 615 4 497 615	14 689 447 14 689 447	19 168 810 19 168 810	290 458 290 458

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

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

Table 2. Industry Statistics for Selected States: 1997

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

			All shments	All emp	oloyees	Pr	oduction work	ers				
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)
311119, OTHER ANIMAL FOOD MFG												
United States	1	1 514	526	32 753	980 156	19 580	39 288	504 040	4 497 615	14 689 447	19 168 810	290 458
Alabama	- 1 1	34 45 103 7 11	16 19 34 5 2	781 1 085 2 247 258 238	19 220 28 757 80 323 9 019 7 013	542 715 1 297 158 159	1 029 1 377 2 838 402 325	12 857 17 279 37 547 4 767 3 623	91 003 130 172 273 089 17 926 19 585	716 119 1 174 741 1 401 570 372 439 57 809	808 541 1 304 832 1 674 584 388 450 76 884	5 828 19 066 20 495 1 930 1 445
Illinois	1 - 1 1	67 44 53 17 22	23 18 15 7 3	1 405 1 039 1 105 283 231	41 220 29 200 31 305 7 693 5 447	746 579 719 215 131	1 597 1 223 1 841 444 235	18 725 14 616 17 911 5 059 3 120	195 207 99 983 87 289 53 894 26 038	454 452 352 806 346 472 177 506 90 020	646 092 459 741 432 593 232 454 115 876	14 273 14 069 6 643 1 014 1 244
Minnesota Missouri New York North Carolina Ohio	1 	65 52 46 54 47	20 18 20 25 15	1 061 1 304 1 055 1 207 1 108	38 284 36 932 34 005 30 781 37 516	639 800 597 747 631	1 322 1 471 1 297 1 344 1 382	18 605 18 064 16 197 16 827 19 673	134 010 289 853 115 359 240 189 103 233	395 340 539 951 279 886 914 436 258 788	531 105 832 624 395 040 1 155 880 361 527	11 295 16 633 5 859 6 731 5 500
Oregon	1 3 1 1	15 75 115 72	4 19 49 20	275 1 430 3 085 1 679	9 036 46 222 98 668 54 733	158 622 2 064 885	320 1 203 4 355 1 729	4 205 14 742 65 237 22 343	51 212 126 600 535 216 188 941	74 507 426 493 1 272 052 399 746	124 997 550 022 1 786 550 591 605	1 271 8 809 36 216 13 364

* 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
311119, OTHER ANIMAL FOOD MFG		311119, OTHER ANIMAL FOOD MFG-Con.	
Companies ¹ number	965	Value added \$1,000	4 497 615
All establishments number. Establishments with 1 to 19 employees number. Establishments with 20 to 99 employees number. Establishments with 100 employees or more number.	1 514 988 492 34	Total inventories, beginning of year \$1,000. Finished goods inventories, beginning of year \$1,000. Work-in-process inventories, beginning of year \$1,000. Materials and supplies inventories, beginning of year \$1,000.	839 203 326 894 91 753 420 556
All employees number. Total compensation ² \$1,000. Annual payroll \$1,000. Total finge benefits \$1,000.	32 753 1 231 022 980 156 250 866	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.	821 204 285 110 151 789 384 305
Production workers, average for year number Production workers on March 12 number	19 580 19 652	Gross book value of total assets at beginning of year	5 399 491 290 458
Production workers on May 12 number Production workers on August 12 number	19 541 19 467	(new and used)	76 581
Production workers on November 12 number. Production-worker hours 1,000 Production-worker wages \$1,000	19 660 39 288 504 040	and used)	213 877 59 380 5 630 569
Total cost of materials	14 689 447	Total depreciation during year ² \$1,000	227 210
Cost of materials, parts, containers, etc., consumed. \$1,000. Cost of resales \$1,000. Cost of fuels \$1,000. Cost of purchased electricity \$1,000. Cost of purchased electricity \$1,000. Cost of purchased selectricity \$1,000. Cost of purchased selectricity \$1,000. Cost of contract work \$1,000.	13 278 965 1 191 015 73 383 114 438 31 646	Total rental payments ² \$1,000. Buildings and other structures rental payments ² \$1,000. Machinery and equipment rental payments ² \$1,000. Cost of purchased services for the repair of buildings and other	85 018 20 721 64 297
Quantity of electricity generated less sold for heat and power	2 069 157	structures ³ \$1,000. Response coverage ratio ⁴ percent. Cost of purchased services for the repair of machinery and	19 943 82
Total value of shipments \$1,000. Primary products value of shipments \$1,000. Secondary products value of shipments \$1,000.	19 168 810 17 510 737 283 826	equipment ³ \$1,000. Response coverage ratio ⁴ percent. Cost of purchased communications services ³ \$1,000. Response coverage ratio ⁴ percent.	91 470 82 21 565 82
Secondary products value of simplifients \$1,000. Total miscellaneous receipts \$1,000. Value of resales \$1,000. Contract receipts \$1,000.	1 374 247 1 306 616	Cost of purchased legal services ³ Cost of purchased legal services ³ Cost of purchased accounting and bookkeeping services ³ Cost of purchased accounting and bookkeeping services ³ Cost of purchased accounting and bookkeeping services ³	6 960 82 9 254
Other miscellaneous receipts	24 557	Response coverage ratio ⁴	9 234 82 9 931
Primary products specialization ratio percent Value of primary products shipments made in all industries \$1,000		Response coverage ratio ⁴ percent Cost of purchased software and other data processing	82
Value of primary products shipments made in this industry \$1,000 Value of primary products shipments made in other industries	17 510 737	services ³ \$1,000. Response coverage ratio ⁴ percent. Cost of purchased refuse removal (including hazardous waste)	3 577 82
Industries	265 989	Cost of purchased refuse removal (including nazardous waste) services ³	5 042 82

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control. ²These items are collected in the ASM and estimated for the remaining establishments; therefore, the levels of estimation are higher than for other items in the table. ³Based on ASM sample data. ⁴A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

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

Table 4. Industry Statistics by Employment Size: 1997

		All establishments		All employees		Production workers						
Employment size class	E1	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)		Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311119, OTHER ANIMAL FOOD MFG												
All establishments	1	1 514	526	32 753	980 156	19 580	39 288	504 040	4 497 615	14 689 447	19 168 810	290 458
Establishments with 1 to 4 employees	1 -	320 276 392 388	_ _ _ 388	705 1 923 5 424 11 771	30 095 46 547 148 769 345 399	483 1 265 3 426 7 275	778 2 099 6 676 14 408	23 088 25 849 80 073 182 075	254 281 789 001 1 755 156	439 291 686 809 2 462 028 6 727 818	729 859 940 017 3 254 505 8 471 247	12 587 15 672 36 273 114 754
employees Establishments with 100 to 249	1	104	104	6 993	215 886	3 719	7 869	100 857	832 108	2 729 602	3 554 959	74 041
employees Establishments with 250 to 499	1	30	30	4 509	143 644	2 451	5 645	65 053		1 415 080	1 690 922	24 589
employees Establishments with 500 to 999	-	4	4	1 428	49 816	961	1 813	27 045	294 313	228 819	527 301	12 542
Establishments with 1,000 to 2,499	-	-	-	-	-	-	-	-	-	-	-	-
employees Establishments with 2,500 employees or more	_	_	_	_	-	-	-	_			-	
Administrative records ²	9	303	_	1 441	25 675	914	1 116	14 217	104 739	306 688	409 267	7 583

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

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 account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more. ²Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

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

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

NAICS industry or		All	All emp	oloyees	Pr	oduction work	ers	Value added			Total capital
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)
311119	Other animal food mfg	1 514	32 753	980 156	19 580	39 288	504 040	4 497 615	14 689 447	19 168 810	290 458
3111191	Chicken and turkey feed, supplements, concentrates, and										
3111194 3111197	premixes Dairy cattle feed, complete Dairy cattle feed supplements,	209 140	6 272 4 972	188 876 156 779	4 043 2 894	8 415 6 251	113 521 78 183	1 465 032 503 377	6 732 897 1 632 819	8 195 834 2 133 054	86 688 29 092
311119A	concentrates, and premixes Swine feed, complete	100 50	2 253 862	71 533 28 085	1 072 495	2 131 980	29 770 12 153	275 906 98 746	756 315 398 684	1 042 461 498 088	16 878 4 021
311119D	Swine feed supplements, concentrates, and premixes	115	2 944	90 324	1 420	2 780	36 726	494 669	1 270 228	1 767 297	37 618
311119G 311119J	Beef cattle feed, complete Beef cattle feed supplements,	62	2 308	61 429	1 615	3 348	37 453	167 206	471 819	623 463	24 093
311119M	concentrates, and premixes Other poultry and livestock feed, nec.	72 60	1 563 1 616	47 386 54 293	871 917	1 842 1 866	21 147 27 465	144 726 206 843	449 151 473 790	595 025 680 700	6 956 8 344
311119P 311119T	Other prepared animal feed, including feeding materials and adjuncts, nec. Specialty feed	80 83	1 629 2 656	49 672 86 136	1 052 1 713	2 212 3 486	26 609 43 941	247 709 283 232	481 641 522 685	727 598 807 035	18 184 24 367

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			1	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)
311119	Other animal food products	N	x	x	17 776 726	N	x	x	N
3111191	Chicken and turkey feed, supplements, concentrates, and premixes	N	х	x	8 136 813	N	x	x	4 890 288
31111911	Complete chicken feed, starter-growers	N	х	x	1 907 737	N	x	x	N
3111191111	and layer-breeders Complete chicken feed, starter- growers	74	х	4 745.6	934 892	84	х	^ 3 630.6	571 154
3111191121	growers	85	Х	4 978.2	972 845	111	х	4 843.6	679 254
31111912 3111191231	Complete chicken feed, broilers	N 41	X X	X 20 957.9	3 915 478 3 915 478	N 47	X X	X 15 861.5	N 2 563 036
31111913	Turkey feed; chicken and turkey supplements, concentrates, and	N	×	x	1 856 554	N	x	x	N
3111191341 3111191351	premixes	47	X X	3 826.7	714 827	54	Ŷ	3 143.1	458 874
3111191361	concentrates, starter-growers1,000 s tons Chicken feed supplements and	12	х	68.5	20 579	14	х	S	18 912
3111191371	concentrates, layer-breeders	20	X	D	D	28	X	P233.4	60 326
3111191381	concentrates, broilers	8	x x	D 540.3	D 111 896	9	x x	581.4 928.3	132 982 6 828
3111191391	Chicken feed premixes (feed-base).								
31111913A1	starter-growers	17	x x	s s	60 132 5 438	6 14	x x	D 958.8	D 27 768
31111913B1	Chicken feed premixes (feed-base), broilers	5	x	98.4	9 605	6	x	50.0 S	15 201
31111913C1	Turkey feed premixes (feed-base)1,000 s tons	4	Â	°3.7	1 255	3	Ŷ	D	13 201 D
3111191Y	Chicken and turkey feed, supplements, concentrates, and premixes, nsk	N	х	x	457 044	N	x	x	N
3111191YWV	Chicken and turkey feed, supplements, concentrates, and premixes, nsk	N	х	х	457 044	N	х	х	334 649
3111194	Dairy cattle feed, complete	N	Х	х	1 599 474	N	х	х	1 454 714
31111941 3111194100	Dairy cattle feed, complete	N 143	X X	X P8 362.9	1 599 474 1 599 474	N 164	x x	X P11 761.0	N 1 454 714
3111197	Dairy cattle feed supplements, concentrates, and premixes	N	x	x	905 155	N	x	х	678 471
31111971	Dairy cattle feed supplements and concentrates, and feed premixes	N	х	x	893 017	N	x	x	N
3111197111	Dairy cattle feed supplements and concentrates	102		2 865.2	733 998	125	x	3 196.9	532 016
3111197121	Dairy cattle feed premixes (feed-base)1,000 s tons	39	X X	308.8	159 019	46	х	P323.2	127 812
3111197Y	Dairy cattle feed supplements, concentrates, and premixes, nsk	N	х	x	12 138	N	x	x	N
3111197YWV	Dairy cattle feed supplements, concentrates, and premixes, nsk	N	х	х	12 138	N	х	х	18 643
311119A	Swine feed, complete	N	Х	х	581 842	N	х	х	541 915
311119A1 311119A100	Swine feed, complete	N 124	X X	X 3 052.2	581 842 581 842	N 151	X X	X P2 526.5	N 541 915
311119D	Swine feed supplements, concentrates, and premixes	N	x	x	981 825	N	x	x	1 181 400
311119D1	Swine feed supplements and concentrates and premixes	N	х	x	970 527	N	x	x	Ν
311119D111	Swine feed supplements and	74	x	1 778.0	696 412	100	x	4 504.7	906 843
311119D121	concentrates	53	x	396.1	274 115	59	Ŷ	P441.6	246 834
311119DY 311119DYWV	Swine feed supplements, concentrates, and premixes, nsk Swine feed supplements, concentrates,	N	х	x	11 298	N	х	x	Ν
	and premixes, nsk	N	Х	х	11 298	N	х	х	27 723
311119G	Beef cattle feed, complete	N	х	х	613 154	N	х	х	524 219
311119G1 311119G100	Beef cattle feed, complete	N 122	X X	X P3 685.7	613 154 613 154	N 141	X X	X 93 611.0	N 524 219
311119J	Beef cattle feed supplements, concentrates, and premixes	N	x	x	616 961	N	x	х	622 981
311119J1	Beef cattle feed supplements and concentrates and premixes	N	х	x	611 317	N	x	x	Ν
311119J111	Beef cattle feed supplements and concentrates	84		2 224.3	523 749	88	×	^ 4 340.7	522 050
311119J121	Beef cattle feed premixes (feed-base)1,000 s tons	34	X X	280.2	87 568	41	Ŷ	S	94 280
311119JY	Beef cattle feed supplements, concentrates, and premixes, nsk	N	х	x	5 644	N	x	x	Ν
311119JYWV	Beef cattle feed supplements, concentrates, and premixes, nsk	N	х	x	5 644	N	x	х	6 651

See footnotes at end of table.

MANUFACTURING-INDUSTRY SERIES

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

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

			19	97			19	992	
NAICS		Number of		Product	shipments	Number of		Product	shipments
product code	Product	companies with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)	companies with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)
311119	Other animal food products – Con.							-	
311119M	Other poultry and livestock feed, nec	N	x	х	676 368	N	x	x	511 879
311119M1 311119M111	Other poultry and livestock feed Other poultry complete feed (duck,	N	х	х	623 303	N	x	х	Ν
311119M121	etc.)	17	x	P193.3	46 194	18	x	P120.8	18 666
311119M131	concentrates (duck, etc.)	5	x x	D	D	5	x x	D	D
311119M141 311119M151	base) (duck, etc.)	89 44	x x x	1 262.7 638.8	296 709 175 141	111 45	X X X	P1 379.2 P301.7	250 139 69 515
311119M161	Horse and mule feed supplements and	15	x	056 1	16 056	22	v	S	11 222
311119M171	Concentrates	15 25	×	956.1 P41.3	16 956 13 501	23 27	x x	5 ۹146.0	11 333 41 778
311119M181	Horse and mule feed premixes (feed- base)	8	x	S	4 261	7	x	S	2 022
311119M191	Other livestock (sheep, etc.) feed premixes (feed-base)1,000 s tons	9	х	s	14 595	10	x	s	20 771
311119MY 311119MYWV	Other poultry and livestock feed, nsk Other poultry and livestock feed, nsk	N N	X X	x x	53 065 53 065	N N	X X	x x	N 33 204
311119P	Other prepared animal feed, including feeding materials and adjuncts, nec	N	x	х	651 735	N	x	x	N
311119P1	Other prepared animal feed, including feeding materials and adjuncts	N	х	х	648 972	N	x	х	N
311119P111	Grain animal feed (ground, rolled, pulverized, chopped, or crimped),								
311119P121	excluding commeal	54 30	x x	S 467.3	254 020 94 206	69 50	x x	s s	106 588 161 241
311119P131 311119P141	oyster shells prepared for feed use	22	х	P314.9	37 621	23	x	S	30 286
311119P151	animal feed	8 35	X X	96.4 S	13 061 250 064	18 N	X X	S N	23 258 N
311119PY	Other prepared animal feeds, including feeding materials and adjuncts, nsk	N	x	х	2 763	N	x	х	Ν
311119PYWV	Other prepared animal feeds, including feeding materials and adjuncts, nsk	N	x	x	2 763	N	x	x	N
311119T	Specialty feed	N	x	x	892 628	N	x	x	747 433
311119T1 311119T111	Specialty feed Fresh and frozen meat of horses and	N	х	х	830 205	N	x	х	Ν
311119T121	other animals for animal feedmil lb Other specialty pet food, except dog	8	х	149.6	27 124	11	x	342.7	60 977
311119T131	and catmil lb Specialty laboratory (mouse, guinea	16	x	P341.1	112 524	11	x	S	156 914
311119T141	pig, etc.) feed	5	x	۹55.1 د	30 063	8	x	72.5	35 402
311119T151	Specialty bird (wild, tame, pigeon, game) feed	7 49	x x	s s	18 231 285 718	6 31	x x	11.8 S	2 514 142 995
311119T161	Specialty rabbit feed1.000 s tons	29	x	126.9	31 674	35	x	q174.5	37 493
311119T171 311119T181	Specialty fish feed	23 35	x x x	645.3 P652.0	197 869 127 002	30 24	X X X	S S	167 128 92 492
311119TY 311119TYWV	Specialty feeds, nsk Specialty feeds, nsk	N N	X X	x x	62 423 62 423	N N	X X	x x	N 51 518
311119W	Prepared feeds, nec, nsk, total	N	х	х	2 120 771	N	x	х	N
311119WY 311119WYWW	Prepared feeds, nec, total Prepared feeds, nec, nsk, for nonadministrative-record	N	х	х	2 120 771	N	x	х	N
311119WYWY	establishments Prepared feeds, nec, nsk, for	N	x	X	1 752 643	N	x	x	N
	administrative-record establishments	N	Х	Х	368 128	N	х	Х	N

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

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

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

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

NAICS roduct class	Product class and geographic area	Value of product shipmen (\$1,000)	ts
code		1997	1992
111191	CHICKEN AND TURKEY FEED, SUPPLEMENTS, CONCENTRATES, AND PREMIXES		
	United States	8 136 813	4 890 288
	Alabama Arkansas	699 558 1 109 403	556 587 778 971
	California Delaware	478 721 309 432	390 733 160 973
	Florida	85 921	60 868
	Georgia	841 019 82 855	541 648 12 880
	Indiana	109 000	69 060
	lowa	117 657 22 892	66 953 6 768
	Michigan	34 244	22 415
	Minnesota Mississippi	119 968 240 263	62 588 77 833
	Missouri Nebraska	560 775 22 384	107 946 8 686
	New York	10 680	11 451
	North Carolina	824 345	525 857
	Ohio Pennsylvania	61 344 126 492	48 284 185 706
	Texas	869 010	298 348
	Vermont Virginia	5 959 428 223	N 153 097
	Washington	16 185 22 154	22 986 11 087
	Wisconsin	22 154	11 087
111194	DAIRY CATTLE FEED, COMPLETE		
	United States	1 599 474	1 454 714
	Alabama	18 377	18 345
	Arkansas California	7 234 430 232	13 594 328 661
	Florida	87 987 46 150	70 008 55 827
	Ullinois	42 319	58 748
	Indiana	50 004 2 684	14 022 7 568
	Kansas	31 950	12 119
	Kentucky	26 864	35 759
	Massachusetts Michigan	23 678 8 876	N 7 323
	Minnesota Missouri	25 199 36 978	19 880 56 762
	Nebraska	5 276	5 999
	New York North Carolina	92 820 38 115	115 333 32 799
	Ohio	42 604 12 539	33 808
	Oklahoma Pennsylvania	77 832	11 498 59 332
	Tennessee	14 161	N
	Texas Virginia	149 431 39 072	121 817 24 640
	Washington Wisconsin	43 311 52 359	72 478 48 383
=			
111197	DAIRY CATTLE FEED SUPPLEMENTS, CONCENTRATES, AND PREMIXES		
	United States	905 155	678 471
	California Colorado	102 013 7 135	77 772 3 443
	Florida Georgia	8 888 12 563	7 150 10 233
	Idaho	14 735	N N
	Illinois	25 289	42 700
	Indiana Iowa	35 139 47 735	32 572 51 021
	Kansas	6 205 11 816	11 044 12 618
	Michigan	25 868	23 908
	Minnesota Missouri	60 112 10 397	79 823 16 728
	Nebraska	12 252 55 292	13 808 31 238
	North Carolina	10 945	9 867
	Ohio	37 219	31 897
	Oregon Pennsylvania	8 331 49 407	N 53 405
	South Ďakota	2 412	4 332
	Texas	64 770 2 478	29 178 3 041
	Virginia	7 283	9 784
	Washington	35 778 175 672	8 567 79 716

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 duct class	Product class and geographic area	Value of product shipment (\$1,000)	J
code		1997	19
1119A	SWINE FEED, COMPLETE		
	United States	581 842	541 9
	California Georgia	7 185 12 942	9 9 21 1
	Illinois	67 041	53 (
	Indiana Iowa	39 035 106 049	36 77
	Kansas	15 925	6
	Kentucky	6 607 28 394	7
	Missouri	29 913	26
	Nebraska	50 126	33
	North Carolina Ohio	71 285 14 176	52 13
	Oklahoma	9 298 12 909	19 22
	South Dakota	2 563	5
	Texas	8 591 5 110	13 20
1119D SV	SWINE FEED SUPPLEMENTS, CONCENTRATES, AND PREMIXES		
1150		981 825	1 181
	Georgia	14 007	22
	Illinois	105 484	177
	Indiana Iowa	87 047 381 385	81 411
	Kansas	31 174	24
	Kentucky Michigan	15 843 8 314	15 15
	Minnesota	48 966	71
	Missouri. Nebraska	20 094 100 391	57 114
	North Carolina	45 889	44
	Ohio	32 810 15 279	35
	South Dakota	9 205	35 19
	Wisconsin	19 007	19
119G	BEEF CATTLE FEED, COMPLETE United States	613 154	524
	Alabama	5 431	5
	Arkansas California	16 486 17 928	15 11
	Florida	37 016	19
	Georgia	10 181	8
	Indiana Iowa	4 244 27 737	5 11
	Kansas Kentucky	121 446 6 390	101 7
	Louisiana	7 069	6
	Minnesota	3 058	11
	Missouri	27 504 3 923	23 3
	Nebraska North Carolina	22 238 5 595	19 2
		5 277	4
	Ohio	64 805	45
	Pennsylvania South Dakota	2 509 10 298	3
	Tennessee Texas.	7 884 133 997	104
	Wisconsin	2 754	2
119J	BEEF CATTLE FEED SUPPLEMENTS, CONCENTRATES, AND PREMIXES		
	United States	616 961	622
	California Colorado	6 660 9 766	7 22
	Georgia	13 796	8
	Idaho	2 077 17 902	42
	Indiana	16 297	16
	lowa	69 985 112 345	70 80
	Kentucky	6 488	6
	Michigan	2 781	2
	Minnesota Missouri	10 793 15 584	21 21
	Nebraska North Carolina	70 594 3 661	68 16
	Ohio	7 875	10
	Pennsylvania	4 112	4
	South Dakota	16 079	25
	Texas	128 649	92

See footnotes at end of table.

MANUFACTURING-INDUSTRY SERIES

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)	5
code		1997	1992
311119M	OTHER POULTRY AND LIVESTOCK FEED, NEC		
	United States	676 368	511 879
	Alabama California	6 785 31 703	6 839 26 543
	Colorado Florida	5 705 27 838	9 578 23 310
	Georgia	78 523	14 812
	Illinois Indiana	37 622 26 169	81 572 23 977
	lowa	57 650 23 932	22 162 6 500
	Kentucky	7 675	4 816
	Michigan	6 825 6 878	3 830 5 071
	Mississippi Missouri	2 508 11 854	4 244 7 712
	Nebraska	2 768	12 792
1	New York	26 863	22 444 12 109
	North Carolina Ohio	27 334 28 598	17 864
	Oklahoma Pennsylvania	12 438 53 314	16 647 18 325
	Tennessee	8 822	9 979
	Texas Virginia	84 727 6 557	53 648 7 378
	Washington	8 965 14 787	3 472 48 098
311119P	OTHER PREPARED ANIMAL FEED, INCLUDING FEEDING MATERIALS AND ADJUNCTS,	14 /0/	40 000
511119P	NEC		
	United States	651 735	Ν
	Arkansas California	2 494 120 639	N N
	Colorado Florida	4 161 33 380	N N
	Georgia	22 992	Ň
	Idaho	13 822 27 959	N N
	Indiana	10 984	N
	lowa Kansas	84 239 14 724	N N
	Kentucky	2 784	N
	Minnesota Missouri	10 217 13 723	N
	Nebraska New York	25 872 10 645	N N
	North Carolina	5 080	N
	Ohio	16 190 6 751	N N
	Oregon Pennsylvania	33 136 6 566	N N
	South Dakota	3 788	N
	Tennessee Texas	2 625 34 741	N N N
	Utah	4 250 21 035	N
	Wisconsin	88 291	N
311119T	SPECIALTY FEED		
	United States	892 628	747 433
	Arkansas California	21 258 87 740	17 410 47 995
	Colorado Florida	32 648 6 691	18 021 4 023
	Georgia	37 882	5 307
	Illinois	22 677	15 612
	Indiana Iowa	32 582 14 874	N 5 083
	Kansas	27 081 2 406	10 375 2 489
	Massachusetts	7 464	Ν
	Michigan	3 454 50 864	6 473 36 259
	Mississippi Nebraska	105 946 24 876	70 585 16 601
	New York	31 968	20 268
	North Carolina	15 759	5 713
	Ohio . Pennsylvania .	29 767 33 249	26 899 32 608
	Tennessee	2 892	3 008
	Texas Utah	26 166 25 630	64 292 N
	Washington	6 786	11 276

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

Table 7. Materials Consumed by Kind: 1997 and 1992

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

NAICS		1997		1992		
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)	
311119	OTHER ANIMAL FOOD MFG					
11114001 11115001 11119901 11119903 11119905	Wheat 1,000 s tons. Field corn, whole grain mil lb. Oats 1,000 s tons. Barley 1,000 s tons. Sorghum 1,000 s tons.	S S 553.5 749.6 S	143 445 3 132 288 80 316 95 804 158 403	2	N N N N N	
31121101 31121115 31122207 31121135 31121137	Wheat flour 1,000 cwt. Wheat millfeed and screenings 1,000 s tons. Soybean millfeed and screenings 1,000 s tons. Other millfeed and screenings 1,000 s tons. Hominy feed and corn meal 1,000 s tons.	S 988.5 S 198.2	43 597 292 701 178 975 190 965 26 017	2 Z Z Z Z Z Z	N N N N N	
31122109 31111900 31131003 31131007 31122307	Corn gluten feed and meal 1,000 s tons. Alfalfa meal, excluding alfalfa hay 1,000 s tons. Sugar, cane and beet (in terms of sugar solids) 1,000 s tons. Molasses 1,000 s tons. Cottonseed cake and meal 1,000 s tons.	424.0 274.8 S 768.5 S	82 844 45 292 15 467 77 474 193 952	N N N N N	N N N N N N N N N N N N N N N N N N N	
31100017 31161303 31161305 31170000 31212000	Fats and oils 1,000 s tons. Meat meal and tankage 1,000 s tons. Poultry feather and byproducts meal 1,000 s tons. Fish meal and solubles (dry weight equivalent) 1,000 s tons. Brewers' and distillers' grains 1,000 s tons.	1 160.1 1 130.3 ^{P956.0} 284.8 589.6	387 319 318 783 320 507 127 277 84 182	N N N N N N	N N N N N N N N N N N N N N N N N N N	
31122205 32518827 32518837 31194205 32518841	Soybean cake and meal 1,000 s tons. Calcium 1,000 s tons. Phosphorus, elemental (technical) 1,000 s tons. Salt 1,000 s tons. Other minerals, except trace minerals 1,000 s tons.	9 658.9 S 753.5 S S	2 516 509 51 230 187 653 38 882 214 810	N N N N N	N N N N N	
32541109 32541111 32541105 32221001 001900A1	Vitamins	x x x x x	379 960 369 590 354 190 9 393 46 357	x x x x x	N N N N N	
31491101 001900A3 32222401 33243101 00970099 00971000	Bags, textile (burlap, cotton, polyporpylene, etc.). Bags; plastics, foil, and coated paper Bags; uncoated paper and multiwall Metal cans, can lids and ends All other materials and components, parts, containers, and supplies Materials, ingredients, containers, and supplies, n.s.k.	X X X X X X	8 377 39 600 65 202 567 936 265 2 064 772	X X X X X X	N	

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

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

Appendix A. Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

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

Inventory Data by Stage of Fabrication

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

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

COST OF MATERIALS

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

Included in this item are:

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

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

Specific Materials Consumed

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

Duplication in Cost of Materials and Value of Shipment

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

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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 linesupervisor 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 sixdigit 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

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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
	NAICO COUE	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 repro- ducing
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 sixdigit 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 beginningand end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

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

VALUE OF SHIPMENTS

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

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

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

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

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

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

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

Duplication in Cost of Materials and Value of Shipment

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

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

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry. Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and Coverage Ratios

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

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

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

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

Appendix B. NAICS Codes, Titles, and Descriptions

311119 OTHER ANIMAL FOOD MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing animal food (except dog and cat) from ingredients, such as grains, oilseed mill products, and meat products.

The data published with NAICS code 311119 include the following SIC industry:

2048 Prepared feeds and feed ingredients for animals and fowls, except dogs and cats (pt)

This definition comes from the 1997 NAICS manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311119 do not include establishments primarily engaged in the custom grinding of grain. The NAICS definitions will be fully implemented with the 2002 Economic Census.

Appendix C. Coverage and Methodology

MAIL/NONMAIL UNIVERSE

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

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

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

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these establishments but were included in the product and material "not specified by kind" (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 fourdigit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

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

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

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

2. Establishments sent a report form.

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

a. ASM sample establishments.

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

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

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

The report form also contained a materialsconsumed 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 supplybased or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit 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 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 broaderbased annual survey of manufactures and the economic

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

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

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

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

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

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

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

Not applicable for this report.

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

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3111111	20473 2047321	20473 2047321	3112111561	2041117 2041121		3112217	20463 2046353	
3111111121	2047323	2047323	3112111681	2041123	2041123	3112217121	2046354	2046354
3111111231 3111111341		2047326 2047338	3112111791	2041126 2041129	2041126 2041129	3112217131 3112217141	2046356 2046359	
31111111YWV	2047300			2041129		3112217YWV	2046300	
3111114	20474	20474	31121118C1	2041131	2041131	311221A	20464	20464
3111114111	2047441	2047441		2041151		311221A111	2046462	2046462
3111114221 3111114231		2047443 2047445	31121118F1	2041198	2041198	311221A221	2046465	
3111114341	2047445 2047454	2047445	3112111YWV	2041100	2041100	311221A231 311221A241	2046472 2046475	2046472 2046475
3111114351	2047457	2047457	3112114			311221AYWV	2046400	2046400
3111114YWV		2047400	3112114111			311221W 311221WYWW	20460	
311111W 311111WYWW	20470 2047000	20470 2047000	3112114YWV	2041200	2041200	311221WYWW	2046000	
311111WYWY	2047002	2047002	3112117	20413		3112221		
3111191	20481	20481	3112117111	2041311 2041315	2041311 2041315		20751 2075113	20751 2075113
3111191111	2048111	2048111	3112117131	2041321	2041321	3112221221	2075115	2075115
	2048115 2048116	2048115 2048116	3112117141		2041323 2041365	3112221231 3112221241		
3111191341	2048118	2048118	3112117161		2041303	3112221YWV	2075100	2075100
	2048121 2048122	2048121 2048122	3112117171	2041395	2041395	3112224		20752 pt
3111191371	2048123	2048123	3112117181 3112117YWV	2041397	2041397 2041300	3112224111		
	2048124 2048131	2048124 2048131	311211A			3112224231	2075251	2075251
31111913A1	2048132	2048132	311211A111	2041511	2041511	3112224241		2075261
31111913B1 31111913C1	2048133 2048134	2048133 2048134		2041513 2041515		3112224201	2075297 2075200 pt	2075297 2075200 pt
3111191YWV	2048100		311211A141	2041521	2041521	311222W	20750 pt	
3111194	20482	20482	311211A151 pt	2041530 pt 2041530 pt	2041517 2041519	311222WYWW	2075000 pt	2075000 pt
3111194100		2048200		2041530 pt	2041525	311222WYWY	2075002 pt	
3111197	20483	20483	311211A161 pt	2041590 pt	2041581	3112231	20741	20741
3111197111	2048301	2048301 2048302	311211A161 pt	2041590 pt 2041590 pt	2041585 2041586		2074100	
3111197121 3111197YWV	2048300	2048300	311211A161 pt	•		3112234	20742 2074200	20742 2074200
311119A	20484	20484	311211A161 pt	2041590 pt	2041589	3112237	20743	
	2048400		311211A171 pt 311211A171 pt		2041591 2041592	3112237100	20743	2074300
311119D		20485	311211A171 pt	2041596 pt	2041595	311223A	20744 pt	20744 pt
311119D111		2048503 2048504	311211AYWV	2041500	2041500	311223A111	2074414	2074414
311119D121 311119DYWV	2048500	2048500	311211D pt	20343 pt	20343 pt	311223A221 311223A231	2074451 2074498	
311119G	20486	20486	311211D pt			311223AYWV	2074400 pt	2074400 pt
311119G100	2048600	2048600	311211D111 pt	2034338 2041613	2034339 pt 2041613	311223D	20761	20761
311119J	20487	20487	311211D121	2041627	2041627	311223D111 311223D121		
311119J111 311119J121	2048705 2048706	2048705 2048706	311211DYWV pt	2034300 pt 2041600	2034300 pt 2041600	311223DYWV	2076100	2076100
311119JYWV	2048700	2048700		20340 pt		311223G	20762	20762
311119M		20488	-			311223G111 311223G121	2076223 2076252	2076223
311119M111 311119M121		2048811 2048812	311211W pt 311211WYWW pt			311223G131	2076257	2076257
311119M131	2048813	2048813	311211WYWW pt	2041000	2041000	311223G141 311223G151	2076262	2076262
311119M141 311119M151		2048816 2048821	311211WYWY pt	2034002 pt 2041002	2034002 pt 2041002	311223G161	2076263 2076264	2076264
311119M161	2048823	2048823				311223G171	2076265	2076265
311119M171 311119M181		2048825 2048831	3112120	20440 2044011		311223G181 311223G191	2076268 2076273	
311119M191	2048833	2048833	3112120221	2044015	2044015	311223G191 311223GYWV	2076200	2076200
311119MYWV	2048800	2048800	3112120331	2044017 2044021		311223J	20763 pt	
311119P	20489 pt	20489 pt	3112120451	2044035	2044035	311223J111 311223J121	2076311 2076351	2076311 2076351
311119P111	2048911 2048922		3112120461	2044051 2044098	2044051	311223J131	2076361	2076361
311119P131	2048935	2048935	3112120481	2044093	2044093	311223J141	2076397 2076300 pt	2076397
311119P141	2048939	2048939	3112120YWW	2044000	2044000			
311119PYWV	2048943 2048900 pt	2048900 pt					20740 pt	
311119T	2048A	2048A	3112130	20830 2083000 pt	20830 2083000 pt	311223W pt 311223WYWW pt	20760 pt 2074000 pt	20760 pt 2074000 pt
311119T111	2048A01	2048A01	3112130YWW	2083000 pt	2083000 pt	311223WYWW pt	2076000 pt	2076000 pt
311119T121 311119T131	2048A03 2048A05	2048A03 2048A05	3112130YWY	2083002	2083002	311223WYWY pt 311223WYWY pt	2074002 pt 2076002 pt	2074002 pt 2076002 pt
311119T141	2048A07	2048A07	3112211					
311119T151 311119T161	2048A09	2048A09 2048A11	3112211111	2046103		3112251 pt	20744 pt	
311119T171	2048A12	2048A12	3112211131 pt	2046114 pt	2046113	3112251 pt	•	
311119T181 311119TYWV	2048A19 2048A00	2048A19 2048A00	3112211131 pt 3112211141	2046114 pt 2046118		3112251 pt	20763 pt	20763 pt
			3112211251	2046123	2046123	3112251 pt	20773 pt	20773 pt
311119W 311119WYWW	20480 pt 2048000 pt	20480 pt 2048000 pt	3112211261			3112251 pt	20791	20791
311119WYWY			3112211YWV	2046100		3112251111	2079113	2079113
3112111	20411	20411	3112214	20462	20462	3112251221 3112251331	2079142	2079142
3112111111	2041105	2041105	3112214111	2046211	2046211	3112251441	2079151	2079151
	2041107 2041111			2046213 2046218 pt		3112251551	2079152 2079153	
3112111441	2041113	2041113	3112214331 pt	2046218 pt	2046217	3112251571	2079154	2079154
3112111551	2041115	2041115	3112214YWV	2046200	2046200	1 3112251581	2079159	2079159

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1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31122515C1 31122515D1 3112251701 3112251706	2079183 2079185 2079198 2077313 2074499 2075299	2079171 2079183 2079185 2079198 2077311 pt 2074499 2075299	3113207 3113207111 3113207221 3113207231 3113207231 3113207251 3113207251 3113207251 3113207360	20669	2066911 2066971 2066975 2066963 2066981	3114121 3114121111 3114121221 3114121331 3114121341 3114121451 3114121561	2038213 2038215 2038219 2038221 2038223	20382 2038211 2038213 2038215 2038219 2038221 2038223
3112251711 3112251721 3112251731 3112251741 3112251751 31122517WV pt	2076394 2076395 2076396 2076398 2074400 pt	2076391 2076394 2076395 2076396 2076398 2076398 2074400 pt	3113207371 3113207381 3113207391 3113207YWV 3113207YWV 311320W 311320W	2066992 2066993 2066995 2066900 20660 20660	2066993 2066995 2066900 20660 2066000	3114121671 3114121781 3114121791 3114121791 31141217A1 31141217A1 31141217B1 31141217C1	2038228 2038231 2038235 2038237 2038238	2038240 2038228 2038231 2038235 2038237 2038237 2038238
3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112254	2076300 pt 2077300 pt 2079100 20792	2075200 pt 2076300 pt 2077300 pt 2079100 20792 2079200	311320WYWY 3113301 3113301000 3113302 3113302	54410 pt	20642 2064200 54410 pt	31141217D1 31141217E1 31141217F1 31141217F1 31141217F1 31141217F1 31141217F1 31141217F1	2038247 2038250 pt 2038250 pt 2038250 pt	2038239 2038247 2038243 2038245 2038245 2038249 2038200
311225W pt 311225W pt		20750 pt 20760 pt	311330W pt 311330W pt 311330WYWW pt 311330WYWW pt	20640 pt 54410 pt 2064000 pt 5441000 pt	20640 pt 54410 pt 2064000 pt 5441000 pt	3114124 3114124111 3114124221 3114124231 3114124441 31141244YWV	2038451 2038459 2038463 2038469	20384 2038451 2038459 2038463 2038469 2038409
311225W pt	20790	20790	311330WYWY pt 311330WYWY pt 3113401 3113401000 3113402	5441002 pt 20643 2064300 54410 pt	5441000 pt 20643 2064300 54410 pt	311412W 311412WYWW 311412WYWY 311412WYWY 3114211 3114211	2038002 20331 2033112	20380 2038000 2038002 20331 2033112
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MANUFACTURING-INDUSTRY SERIES

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3118230YWY	2098002	2098002	3119301	20872	20872	3119910 pt	20990 pt	20990 pt
3118300 pt	20990 pt	20990 pt	3119301111	2087215 2087221	2087215 2087221	3119910 pt 3119910111	20999 pt 2099921	20999 pt 2099921
3118300 pt 3118300100 3118300YWW pt 3118300YWW pt 3118300YWW pt	2099000 pt 2099900 pt 2099002 pt	2099000 pt 2099900 pt 2099002 pt	31193011900 3119304 3119304111 3119304121 3119304131 3119304141	2087200 20873 2087321 2087323 2087325 2087341	20873 2087321 2087323 2087325 2087341	3119910221 3119910331 3119910441 3119910551 3119910561 3119910671	2099931 2099935 2099945 2099953 2099955 2099958	2099931 2099935 2099945 2099953 2099955
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