

Roasted Nuts and Peanut Butter Manufacturing

1997

Issued July 1999

EC97M-3119A

1997 Economic Census

Manufacturing

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

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Economics and Statistics Administration
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-- Not applicable for this report.

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

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

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

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

ALL-NEW INDUSTRY CLASSIFICATIONS

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

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

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

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

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

RELATIONSHIP TO SIC

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

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

GEOGRAPHIC AREA CODING

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

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

BASIS OF REPORTING

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

DOLLAR VALUES

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

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

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

Special Tabulations

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

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

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

HISTORICAL INFORMATION

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

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

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

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

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

SOURCES FOR MORE INFORMATION

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

ABBREVIATIONS AND SYMBOLS

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

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

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

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Manufacturing

SCOPE

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

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

GENERAL

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

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

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

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

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

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

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

GEOGRAPHIC AREAS COVERED

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

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

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

census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

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

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

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

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

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

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

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the

manufacturing data. This change affects data in the state reports and the general summary.

DISCLOSURE

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

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

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

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

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

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

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

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

NAICS or SIC code	Industry	Com-panies ¹	All estab-lish-ments ²	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital ex-pen-ditures (\$1,000)
				Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
311911	Roasted nuts & peanut butter mfg	127	141	9 734	257 603	7 260	15 664	162 385	1 544 392	2 362 822	3 879 136	82 604
206800	Salted & roasted nuts & seeds	N	125	8 590	222 702	6 376	13 841	138 524	1 255 249	1 857 333	3 084 659	68 721
209940	Food preparations, n.e.c. (pt)	N	16	1 144	34 901	884	1 823	23 861	289 143	505 489	794 477	13 883

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

Table 2. Industry Statistics for Selected States: 1997

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

Industry and geographic area	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital ex-pen-ditures (\$1,000)
		Total	With 20 em-ploy-ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
311911, ROASTED NUTS & PEANUT BUTTER MFG												
United States	-	141	79	9 734	257 603	7 260	15 664	162 385	1 544 392	2 362 822	3 879 136	82 604
California	-	32	20	3 531	87 475	2 616	6 099	54 933	565 369	725 872	1 262 323	30 570
Illinois	1	6	4	367	7 190	260	476	4 508	18 984	50 872	70 294	1 729
Kentucky	-	4	3	648	21 153	571	1 187	15 244	146 756	264 046	407 132	8 240
Massachusetts	-	5	3	206	6 310	117	244	2 656	21 305	44 822	62 828	2 305
Michigan	1	5	2	131	4 393	44	84	838	13 596	15 157	29 245	409
Ohio	-	8	3	217	5 965	161	324	2 990	17 723	33 157	50 284	484
Pennsylvania	1	5	3	220	5 712	105	209	1 761	13 707	30 703	44 095	925
Texas	-	6	4	181	4 233	159	356	3 285	13 920	60 807	72 806	682

* 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
311911, ROASTED NUTS & PEANUT BUTTER MFG		311911, ROASTED NUTS & PEANUT BUTTER MFG	
— Con.		— Con.	
Companies ¹	number.. 127	Value added	\$1,000.. 1 544 392
All establishments	number.. 141	Total inventories, beginning of year	\$1,000.. 653 560
Establishments with 1 to 19 employees	number.. 62	Finished goods inventories, beginning of year	\$1,000.. 211 850
Establishments with 20 to 99 employees	number.. 54	Work-in-process inventories, beginning of year	\$1,000.. 285 911
Establishments with 100 employees or more	number.. 25	Materials and supplies inventories, beginning of year	\$1,000.. 155 799
All employees	number.. 9 734	Total inventories, end of year	\$1,000.. 714 149
Total compensation ²	\$1,000.. 336 002	Finished goods inventories, end of year	\$1,000.. 214 909
Annual payroll	\$1,000.. 257 603	Work-in-process inventories, end of year	\$1,000.. 310 927
Total fringe benefits	\$1,000.. 78 399	Materials and supplies inventories, end of year	\$1,000.. 188 313
Production workers, average for year	number.. 7 260	Gross book value of total assets at beginning of year	\$1,000.. 877 252
Production workers on March 15	number.. 7 049	Total capital expenditures (new and used)	\$1,000.. 82 604
Production workers on May 15	number.. 6 704	Capital expenditures for buildings and other structures (new and used)	\$1,000.. 10 147
Production workers on August 15	number.. 7 282	Capital expenditures for machinery and equipment (new and used)	\$1,000.. 72 457
Production workers on November 15	number.. 8 005	Total retirements ²	\$1,000.. 19 260
Production-worker hours	\$1,000.. 15 664	Gross book value of total assets at end of year	\$1,000.. 940 596
Production-worker wages	\$1,000.. 162 385	Total depreciation during year ²	\$1,000.. 52 208
Total cost of materials	\$1,000.. 2 362 822	Total rental payments ²	\$1,000.. 10 534
Cost of materials, parts, containers, etc., consumed	\$1,000.. 2 291 777	Buildings and other structures rental payments ²	\$1,000.. 4 095
Cost of resales	\$1,000.. 31 595	Machinery and equipment rental payments ²	\$1,000.. 6 439
Cost of fuels	\$1,000.. 8 004	Cost of purchased services for the repair of buildings and other structures ³	\$1,000.. 10 206
Cost of purchased electricity	\$1,000.. 18 885	Response coverage ratio ⁴	percent.. 74
Cost of contract work	\$1,000.. 12 561	Cost of purchased services for the repair of machinery and equipment ³	\$1,000.. 24 704
Quantity of electricity purchased for heat and power	1,000 kWh.. 318 626	Response coverage ratio ⁴	percent.. 74
Quantity of electricity generated less sold for heat and power	1,000 kWh.. D	Cost of purchased communications services ³	\$1,000.. 3 237
Total value of shipments	\$1,000.. 3 879 136	Response coverage ratio ⁴	percent.. 74
Primary products value of shipments	\$1,000.. 3 594 483	Cost of purchased legal services ³	\$1,000.. 1 780
Secondary products value of shipments	\$1,000.. 238 445	Response coverage ratio ⁴	percent.. 74
Total miscellaneous receipts	\$1,000.. 46 208	Cost of purchased accounting and bookkeeping services ³	\$1,000.. 739
Value of resales	\$1,000.. 41 820	Response coverage ratio ⁴	percent.. 74
Contract receipts	\$1,000.. D	Cost of purchased advertising services ³	\$1,000.. 11 597
Other miscellaneous receipts	\$1,000.. D	Response coverage ratio ⁴	percent.. 74
Primary products specialization ratio	percent.. 93	Cost of purchased software and other data processing services ³	\$1,000.. 1 549
Value of primary products shipments made in all industries	\$1,000.. 3 761 476	Response coverage ratio ⁴	percent.. 74
Value of primary products shipments made in this industry	\$1,000.. 3 594 483	Cost of purchased refuse removal (including hazardous waste) services ³	\$1,000.. 1 114
Value of primary products shipments made in other industries	\$1,000.. 166 993	Response coverage ratio ⁴	percent.. 74
Coverage ratio	percent.. 95		

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

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

³Based on ASM sample data.

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

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

Table 4. Industry Statistics by Employment Size: 1997

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

Employment size class	E ¹	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
311911, ROASTED NUTS & PEANUT BUTTER MFG												
All establishments	-	141	79	9 734	257 603	7 260	15 664	162 385	1 544 392	2 362 822	3 879 136	82 604
Establishments with 1 to 4 employees	8	34	-	58	1 272	50	78	816	7 299	11 313	18 738	378
Establishments with 5 to 9 employees	8	13	-	D	D	D	D	D	D	D	D	D
Establishments with 10 to 19 employees	2	15	-	222	5 146	162	298	3 046	21 089	44 626	65 502	1 012
Establishments with 20 to 49 employees	2	30	30	901	22 129	677	1 359	13 365	76 785	178 252	252 978	4 533
Establishments with 50 to 99 employees	-	24	24	1 677	41 424	1 190	2 599	23 349	167 333	335 755	509 378	10 583
Establishments with 100 to 249 employees	-	16	16	2 414	67 480	1 785	3 888	44 705	569 774	910 699	1 472 098	21 865
Establishments with 250 to 499 employees	-	7	7	2 548	72 583	1 954	3 967	47 977	316 633	600 012	893 422	28 668
Establishments with 500 to 999 employees	-	1	1	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees	-	1	1	D	D	D	D	D	D	D	D	D
Establishments with 2,500 employees or more	-	-	-	-	-	-	-	-	-	-	-	-
Administrative records ²	9	42	-	170	4 091	135	245	2 652	21 217	33 714	55 300	1 317

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

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

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

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

NAICS industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
311911	Roasted nuts & peanut butter mfg	141	9 734	257 603	7 260	15 664	162 385	1 544 392	2 362 822	3 879 136	82 604
3119111	Nuts and seeds (salted, roasted, cooked, or blanched)	80	8 304	216 332	6 187	13 459	134 697	1 223 312	1 809 553	3 005 892	66 800
3119114	Peanut butter	13	1 140	34 759	880	1 817	23 773	288 661	504 985	793 491	13 842

Table 6a. Products Statistics: 1997 and 1992

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

NAICS product code	Product	1997				1992			
		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)			Quantity	Value (\$1,000)
311911	Roasted nuts or seeds and peanut butter	N	X	X	3 761 476	N	X	X	N
3119111	Nuts and seeds (salted, roasted, cooked, or blanched)	N	X	X	2 817 716	N	X	X	N
31191111	Nuts (salted, roasted, cooked, or blanched), sold in bulk	N	X	X	1 404 904	N	X	X	N
311911111	Peanuts (salted, roasted, cooked, or blanched), shipped separately, sold in bulk	24	X	P481.4	395 692	32	X	567.9	367 157
3119111121	Mixed nuts (salted, roasted, cooked, or blanched), including 4 varieties or more, sold in bulk	17	X	S	39 558	15	X	S	17 437
3119111131	Other nuts (salted, roasted, cooked, or blanched), shipped separately or with 3 varieties or less, sold in bulk	31	X	440.8	969 654	34	X	227.9	446 982
31191112	Canned nuts (salted, roasted, cooked, or blanched)	N	X	X	657 472	N	X	X	N
3119111241	Canned peanuts (salted, roasted, cooked, or blanched), shipped separately	15	X	S	147 603	18	X	165.3	278 273
3119111251	Canned mixed nuts (salted, roasted, cooked, or blanched), including 4 varieties or more	14	X	58.3	204 853	18	X	57.6	147 258
3119111261	Other canned nuts (salted, roasted, cooked, or blanched), canned separately or with 3 varieties or less	15	X	97.6	305 016	20	X	56.8	176 116
31191113	All other packaged nuts, and all seeds (salted, roasted, cooked, or blanched)	N	X	X	755 340	N	X	X	N
3119111371	Other packaged peanuts (salted, roasted, cooked, or blanched), shipped separately	22	X	P124.9	163 936	27	X	P122.6	203 149
3119111381	Other packaged mixed nuts (salted, roasted, cooked, or blanched), including 4 varieties or more	20	X	13.0	44 468	26	X	32.6	70 782
3119111391	Other packaged nuts (salted, roasted, cooked, or blanched), packaged separately or with 3 varieties or less	39	X	P127.2	356 946	42	X	P385.7	797 911
31191113A1	Seeds (sunflower, pumpkin, etc.) (salted, roasted, cooked, or blanched)	23	X	357.6	189 990	23	X	140.9	121 572
3119111Y	Nuts and seeds (salted, roasted, cooked, or blanched), nsk, total	N	X	X	-	N	X	X	N
3119111YWV	Nuts and seeds (salted, roasted, cooked, or blanched), nsk	N	X	X	-	N	X	X	N
3119114	Peanut butter	N	X	X	856 897	N	X	X	1 269 720
31191141	Peanut butter	N	X	X	851 165	N	X	X	N
3119114111	Peanut butter in consumer sizes	16	X	562.2	742 419	25	X	838.2	1 160 540
3119114121	Peanut butter in commercial sizes and bulk	16	X	P115.4	108 746	17	X	116.6	104 606
3119114Y	Peanut butter, nsk	N	X	X	5 732	N	X	X	N
3119114YWV	Peanut butter, nsk	N	X	X	5 732	N	X	X	4 574
311911W	Roasted nuts (or seeds) and peanut butter, nsk, total	N	X	X	86 863	N	X	X	N
311911WY	Roasted nuts (or seeds) and peanut butter manufacturing, nsk, total	N	X	X	86 863	N	X	X	N
311911WYWW	Roasted nuts (or seeds) and peanut butter manufacturing, nsk, for nonadministrative-record establishments	N	X	X	32 135	N	X	X	N
311911WYWY	Roasted nuts (or seeds) and peanut butter manufacturing, nsk, for administrative-record establishments	N	X	X	54 728	N	X	X	N

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

@ Additional data are available for this item in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

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

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

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

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

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)	
		1997	1992
3119111	NUTS AND SEEDS (SALTED, ROASTED, COOKED, OR BLANCHED)		
	United States	2 817 716	N
	California	1 236 159	N
	Georgia	362 078	N
	Illinois	24 586	N
	Massachusetts	44 542	N
	Michigan	20 376	N
	Minnesota	63 721	N
	New Jersey	42 678	N
	New York	16 890	N
	North Dakota	35 134	N
	Ohio	43 498	N
	Pennsylvania	38 948	N
	Texas	37 318	N
3119114	PEANUT BUTTER		
	United States	856 897	1 269 720
	Georgia	176 484	244 206
	Texas	35 090	N

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

@ Additional data are available for this item in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title.

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

Table 7. Materials Consumed by Kind: 1997 and 1992

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

NAICS material code	Material consumed	1997		1992	
		Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
311911	ROASTED NUTS & PEANUT BUTTER MFG				
11100003	Nuts, in shell (including peanuts)mil lb.	P860.9	449 538	1 122.4	635 711
31191101	Nutmeats, including peanuts, processedmil lb.	264.6	268 477	150.9	125 696
11100029	Nutmeats, rawmil lb.	1 135.6	1 032 293	N	N
00190045	Fresh and dried fruitsmil lb.	9.0	8 637	P13.6	13 067
31131003	Sugar, cane and beet (in terms of sugar solids)1,000 s tons.	26.6	12 164	N	N
31100021	Fats and oils, including shortening1,000 s tons.	P26.0	20 443	46.4	16 812
001900A1	Packaging paper and plastics film, coated and laminated	X	42 549	X	N
32221001	Paperboard containers, boxes, and corrugated paperboard	X	55 359	X	N
32721301	Glass containers	X	14 147	X	N
33243101	Metal cans, can lids and ends	X	26 954	X	N
00970099	All other materials and components, parts, containers, and supplies	X	274 453	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	86 763	X	N

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

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

Appendix A.

Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

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

Inventory Data by Stage of Fabrication

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

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

COST OF MATERIALS

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

Included in this item are:

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

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

Specific Materials Consumed

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

Duplication in Cost of Materials and Value of Shipment

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

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

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

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

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

COST OF PURCHASED SERVICES

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

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

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

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

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

Response Coverage Ratio

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

DEPRECIATION CHARGES FOR FIXED ASSETS

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

EMPLOYEES

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

Production Workers

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

All Other Employees

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

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

FRINGE BENEFITS

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

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

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

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

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

NUMBER OF ESTABLISHMENTS AND COMPANIES

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

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

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

PAYROLL

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

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

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

PRODUCT CODES AND CLASSES OF PRODUCTS

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

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

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

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

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

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

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

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

PRIMARY PRODUCT CLASS CODE

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

PRODUCTION-WORKER HOURS

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

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

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

RENTAL PAYMENTS

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

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

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

RETIREMENTS OF DEPRECIABLE ASSETS

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

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

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

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

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

VALUE ADDED

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

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

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

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

VALUE OF SHIPMENTS

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

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

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

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

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

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

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

Duplication in Cost of Materials and Value of Shipment

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

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

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

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

Specialization and Coverage Ratios

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

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

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

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

Appendix B.

NAICS Codes, Titles, and Descriptions

311911 ROASTED NUTS AND PEANUT BUTTER MANUFACTURING

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) salting, roasting, drying, cooking, or canning nuts; (2) processing grains or seeds into snacks; and (3) manufacturing peanut butter.

The data published with NAICS code 311911 include the following SIC industries:

2068 Salted and roasted nuts and seeds
2099 Food preparations, n.e.c. (pt)

Appendix C.

Coverage and Methodology

MAIL/NONMAIL UNIVERSE

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

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

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

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

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

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

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

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

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

2. Establishments sent a report form.

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

- a. ASM sample establishments.

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

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

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

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

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

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

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

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

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

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

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

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

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

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

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

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

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

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

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

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

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

ESTABLISHMENT BASIS OF REPORTING

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

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

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

DESCRIPTION OF THE ASM SURVEY SAMPLE

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

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

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

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

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

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

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

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

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

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

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

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

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

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

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

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

QUALIFICATIONS OF THE ASM DATA

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

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

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

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

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

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

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

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

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

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

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

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

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

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

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

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

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

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

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

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

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

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

Not applicable for this report.

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3112251591	2079171	2079171	3113207	20669	20669	3114121	20382	20382
31122515A1	2079183	2079183	3113207111	2066921	2066921	3114121111	2038211	2038211
31122515B1	2079185	2079185	3113207221	2066911	2066911	3114121221	2038213	2038213
31122515C1	2079198	2079198	3113207231	2066971	2066971	3114121331	2038215	2038215
31122515D1	2077313	2077313 pt	3113207241	2066975	2066975	3114121341	2038219	2038219
3112251701	2074499	2074499	3113207251	2066963	2066963	3114121451	2038221	2038221
3112251706	2075299	2075299	3113207360	2066981	2066981	3114121561	2038223	2038223
3112251711	2076391	2076391	3113207371	2066992	2066992	3114121671	2038224	2038224
3112251721	2076394	2076394	3113207381	2066993	2066993	3114121781	2038228	2038228
3112251731	2076395	2076395	3113207391	2066995	2066995	3114121791	2038231	2038231
			3113207YVW	2066900	2066900	31141217A1	2038235	2038235
3112251741	2076396	2076396						
3112251751	2076398	2076398	311320W	20660	20660	31141217B1	2038237	2038237
3112251YVW pt	2074400 pt	2074400 pt	311320WYVW	2066000	2066000	31141217C1	2038238	2038238
3112251YVW pt	2075200 pt	2075200 pt	311320WYVY	2066002	2066002	31141217D1	2038239	2038239
3112251YVW pt	2076300 pt	2076300 pt				31141217E1	2038247	2038247
3112251YVW pt	2077300 pt	2077300 pt	3113301	20642	20642	31141217F1 pt	2038250 pt	2038243
3112251YVW pt	2079100	2079100	3113301000	2064200	2064200	31141217G1 pt	2038250 pt	2038245
						31141217H1 pt	2038250 pt	2038249
3112254	20792	20792	3113302	54410 pt	54410 pt	3114121YVW	2038200	2038200
3112254100	2079200	2079200	3113302000	5441011	5441000 pt			
311225W pt	20740 pt	20740 pt						
311225W pt	20750 pt	20750 pt	311330W pt	20640 pt	20640 pt	3114124	20384	20384
311225W pt	20760 pt	20760 pt				3114124111	2038451	2038451
311225W pt	20770 pt	20770 pt	311330W pt	54410 pt	54410 pt	3114124221	2038459	2038459
			311330WYVW pt	2064000 pt	2064000 pt	3114124331	2038463	2038463
			311330WYVW pt	5441000 pt	5441000 pt	3114124441	2038469	2038469
			311330WYVY pt	2064002 pt	2064002 pt	3114124YVW	2038400	2038400
			311330WYVY pt	5441002 pt	5441000 pt			
311225W pt	20790	20790				311412W	20380	20380
311225WYVW pt	2074000 pt	2074000 pt	3113401	20643	20643	311412WYVW	2038000	2038000
311225WYVW pt	2075000 pt	2075000 pt	3113401000	2064300	2064300			
311225WYVW pt	2076000 pt	2076000 pt						
311225WYVW pt	2077000 pt	2077000 pt	3113402	54410 pt	54410 pt	3114211	20331	20331
311225WYVW pt	2079000	2079000	3113402000	5441015	5441000 pt	3114211111	2033112	2033112
311225WYVY pt	2074002 pt	2074002 pt				3114211121	2033113	2033113
311225WYVY pt	2075002 pt	2075002 pt				3114211131	2033115	2033115
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3112301111	2043101	2043101	3113407 pt	20649	20649	31142111A1	2033138	2033138
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3112301351	2043109	2043109	3113407231	2099G95	2099G98 pt	31142111D1	2033159	2033159
3112301361	2043111	2043111	3113407241	2064921	2064921	31142111E1	2033161	2033161
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311230WYVW	2043000 pt	2043000 pt				3114214181	2033255	2033255
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311421J231	2033A31	2033A31	3115117131	2026318	2026318	3115200331	2024016	2024016
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311421J251	2033A78	2033A78				3115200451	2024022	2024022
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311421P121	2035213	2035213	311511DYVW	2026700	2026700	31152005H1	2024098	2024099 pt
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3114234111	2034313	2034313	3115144121	2023616	2023616	311611PYVW	2011900	2011900
3114234121	2034315	2034315	3115144131	2023621	2023621			
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3114234181	2034340	2034339 pt	3115147	20237	20237	311611T121	2011B17	2011B17
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			311514A241	2023805	2023805			
3115111	20261	20261	311514A251	2023807	2023807	311611W pt.	20480 pt	20480 pt
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3115111231	2026116	2026116	311514AYVW	2023800	2023800	311611WYVW pt.	2011002	2011002
3115111241	2026119	2026119				311611WYVW pt.	2048002 pt.	2048002 pt
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3116124331	2013721	2013721	3117121121	2092202	2092213 pt	3118124231	2051243	2051243
3116124441	2013735	2013735	3117121131	2092203	2092213 pt	3118124241	2051244	2051244
3116124451	2013791	2013791	3117121141	2092204	2092213 pt	3118124251	2051250	2051250
3116124YVW	2013700 pt	2013700 pt	3117121151	2092207	2092213 pt	3118124261	2051251	2051251
3116127	20138	20138	3117121161	2092208	2092213 pt	3118124271	2051260	2051260
3116127100	2013800	2013800	3117121171	2092209	2092213 pt	3118124281	2051261	2051261
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311612A pt	51470 pt	51470 pt	3117121191	2092211	2092213 pt	31181242A1	2051271	2051271
311612A111	5147009	5147000 pt	31171211A1	2092212	2092213 pt	31181242B1	2051280	2051280
311612A221	2013B11	2013B11	31171211B1	2092215	2092215	31181242C1	2051281	2051281
311612A331	2013B13	2013B13	31171211C1	2092217	2092217	31181242D1	2051290	2051290
311612A441	2013B17	2013B17	31171211D1	2092218	2092218	31181242E1	2051291	2051291
311612A451	2013B18	2013B18	31171211E1	2092219	2092219	31181242F1	2051299	2051299
311612A461	2013B21	2013B21	31171211F1	2092223	2092223	3118124YVW	2051200	2051200
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3116131121	2077113	2077113	3117122331	2092315	2092315	311812D pt	20518 pt	20518
3116131YVW	2077100	2077100	3117122441	2092317	2092317	311812D pt	20518 pt	20518
3116134 pt	20772	20772	3117122451	2092319	2092319	311812D111	2051813	2051813
3116134 pt	20773 pt	20773 pt	3117122461	2092321	2092321	311812D131	2051845	2051700
3116134111	2077211	2077211	3117122471	2092323	2092323	311812D151	2051850	2051600
3116134221	2077212	2077212	3117122581	2092325	2092325	311812D181	2051890	2051398 pt
3116134231	2077237	2077237	3117122691	2092328	2092327 pt	311812D191	2051892	2051398 pt
3116134241	2077298	2077298	31171226A1	2092331	2092329 pt	311812DYVW	2051800	2051300
3116134251	2077346	2077346	31171227B1	2092332	2092326 pt	311812W pt	20510	20510
3116134261	2077312	2077311 pt	31171228C1	2092333	2092327 pt	311812W pt	20520 pt	20520 pt
3116134YVW pt	2077200	2077200	31171228D1	2092334	2092329 pt	311812WYVW pt....	2051000	2051000
3116134YVW pt	2077300 pt	2077300 pt	31171229E1	2092336	2092326 pt	311812WYVW pt....	2052000 pt	2052000 pt
311613W	20770 pt	20770 pt	3117122AF1	2092338	2092327 pt	311812WYVW pt....	2051002	2051002
311613WYVW	2077000 pt	2077000 pt	3117122AG1	2092339	2092329 pt	311812WYVW pt....	2052002 pt	2052002 pt
311613WYVW	2077002 pt	2077002 pt	3117122YVW	2092300	2092300	3118130	20530	20530
3116151	20151	20151	3117123	20925	20925	3118130111	2053014	2053014
3116151111	2015133	2015133	3117123111	2092521	2092521	3118130221	2053011	2053011
3116151221	2015134	2015134	3117123121	2092522	2092522	3118130331	2053020	2053020
3116151331	2015136	2015136	3117123131	2092523	2092523	3118130341	2053017	2053017
3116151441	2015139	2015139	3117123141	2092524	2092524	3118130351	2053040	2053040
3116151551	2015141	2015141	3117123251	2092525	2092525	3118130361	2053030	2053025 pt
3116151YVW	2015100	2015100	3117123261	2092526	2092526	3118130371	2053032	2053025 pt
3116154	20152	20152	3117123271	2092527	2092527	3118130391	2053055	2053050 pt
3116154111	2015221	2015221	3117123281	2092528	2092528	31181303V1	2053060	2053050 pt
3116154121	2015223	2015223	3117123291	2092529	2092529	3118130YVW	2053000	2053000
3116154YVW	2015200	2015200	31171232A1	2092530	2092530	3118130YVW	2053002	2053002
3116157	20153	20153	31171232E1	2092536	2092536	3118211	20521 pt	20521 pt
3116157111	2015322	2015322	3117123YVW	2092500	2092500	3118211111	2052125	2052125
3116157221	2015324	2015324	3117124 pt	20773 pt	20773 pt	3118211221	2052135	2052135
3116157331	2015326	2015326	3117124 pt	20926	20926	3118211331	2052123	2052123
3116157341	2015327	2015327	3117124111	2092611	2092611	3118211341	2052133	2052133
3116157YVW	2015300	2015300	3117124121	2092613	2092613	3118211351	2052159	2052151 pt
311615A	20154	20154	3117124131	2092698	2092698	3118211391	2052197	2052198 pt
311615A111	2015414	2015414	3117124211	2077363	2077361 pt	3118211YVW	2052100 pt	2052100 pt
311615A121	2015416	2015416	3117124221	2077367	2077366 pt	3118214	20522	20522
311615AYVW	2015400	2015400	3117124231	2077372	2077379 pt	3118214111	2052213	2052213
311615D	20155	20155	3117124241	2077314	2077311 pt	3118214221	2052217	2052217
311615D111 pt	2015512 pt	2015511	3117124311	2077300 pt	2077300 pt	3118214331	2052215	2052215
311615D111 pt	2015512 pt	2015513	3117124321	2092600	2092600	3118214341	2052218	2052218
311615D111 pt	2015512 pt	2015515	3117124YVW pt....	2077300 pt	2077300 pt	3118214351	2052218	2052218
311615D121	2015531	2015531	3117124YVW pt....	2092600	2092600	3118214361	2052220	2052220
311615D131	2015532	2015532	311712W pt	20770 pt	20770 pt	3118214371	2052221	2052221
311615D141	2015533	2015533	311712W pt	20920	20920	3118214381	2052235	2052235
311615D151	2015534	2015534	311712WYVW pt....	2077000 pt	2077000 pt	3118214391	2052231	2052231
311615D161	2015539	2015539	311712WYVW pt....	2092000	2092000	3118214YVW	2052200	2052200
311615D171	2015548	2015548	311712WYVW pt....	2077002 pt	2077002 pt	311821W	20520 pt	20520 pt
311615DYVW	2015500	2015500	311712WYVW pt....	2092002	2092002	311821WYVW	2052000 pt	2052000 pt
311615W	20150 pt	20150 pt	3118110	54610	54610	3118220	20450	20450
311615WYVW	2015000 pt	2015000 pt	3118110111	5461011	5461000 pt	3118220121	2045013	2045013
311615WYVW	2015002 pt	2015002 pt	3118110121	5461013	5461000 pt	3118220211	2045011	2045011
3117110 pt	20770 pt	20770 pt	3118110131	5461015	5461000 pt	3118220231	2045015	2045015
3117110 pt	20773 pt	20773 pt	3118110141	5461017	5461000 pt	3118220241	2045030 pt	2045017
3117110 pt	20910	20910	3118110151	5461019	5461000 pt	3118220241 pt	2045030 pt	2045019
3117110111	2091012	2091012	3118110161	5461021	5461000 pt	3118220241 pt	2045030 pt	2045025
3117110221	2091013	2091013	31181101V1	5461090	5461000 pt	3118220251	2045021	2045021
3117110331	2091014	2091014	3118110YVW	5461000	5461000 pt	3118220261 pt	2045090 pt	2045081
3117110341	2091015	2091015	3118110YVW	5461002	5461000 pt	3118220261 pt	2045090 pt	2045085
3117110351	2091016	2091016	3118121 pt	20511	20511	3118220261 pt	2045090 pt	2045086
3117110461	2077362	2077361 pt	3118121 pt	20521 pt	20521 pt	3118220261 pt	2045090 pt	2045088
3117110471	2077364	2077366 pt	3118121111	2051121	2051121	3118220271 pt	2045096 pt	2045091
3117110481	2077371	2077379 pt	3118121121	2051122	2051122	3118220271 pt	2045096 pt	2045092
3117110591	2091019	2091019	3118121231	2051127	2051127	3118220271 pt	2045096 pt	2045095

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3118230YWV	2098002	2098002 pt	3119301	20872	20872	3119910 pt	20990 pt	20990 pt
3118300 pt	20990 pt	20990 pt	3119301111	2087215	2087215	3119910 pt	20999 pt	20999 pt
3118300 pt	20999 pt	20999 pt	3119301121	2087221	2087221	3119910111	2099921	2099921
3118300100	2099943	2099943	3119301YVW	2087200	2087200	3119910221	2099931	2099931
3118300YVW pt	2099000 pt	2099000 pt	3119304	20873	20873	3119910331	2099935	2099935
3118300YVW pt	2099000 pt	2099000 pt	3119304111	2087321	2087321	3119910441	2099945	2099945
3118300YVW pt	2099000 pt	2099000 pt	3119304121	2087323	2087323	3119910551	2099953	2099953
3118300YVW pt	2099002 pt	2099002 pt	3119304131	2087325	2087325	3119910561	2099955	2099955
3119111	20680 pt	20680 pt	3119304141	2087341	2087341	3119910671	2099958	2099958
3119111111	2068013	2068013	3119304151	2087343	2087343	3119910781	2099959	2099959
3119111251	2068015	2068015	3119304161	2087345	2087345	3119910YVW pt	2099000 pt	2099000 pt
3119111131	2068017	2068017	3119304YVW	2087300	2087300	3119910YVW pt	2099000 pt	2099000 pt
3119111241	2068033	2068033	3119307	20874 pt	20874 pt	3119910YVW pt	2099002 pt	2099002 pt
3119111251	2068035	2068035	3119307111	2087459	2087459	3119991	20991	20991
3119111261	2068037	2068037	3119307121	2087461	2087461	3119991111	2099113	2099113
3119111371	2068053	2068053	3119307131	2087471	2087471	3119991121	2099115	2099115
3119111381	2068055	2068055	3119307141	2087481	2087481	3119991131	2099153	2099153
3119111391	2068057	2068057	3119307YVW	2087400 pt	2087400 pt	3119991141	2099155	2099155
31191113A1	2068061	2068061	311930W	20870 pt	20870 pt	3119991151	2099159	2099159
3119111YVW	2068000 pt	2068000 pt	311930WYVW	2087000 pt	2087000 pt	3119991YVW	2099100	2099100
3119114	2099F	2099F	311930WYVW	2087002 pt	2087002 pt	3119994	20993	20993
3119114111	2099F44	2099F44	3119411	20996	20996	3119994111	2099325	2099325
3119114121	2099F46	2099F46	3119411111	2099611	2099611	3119994121	2099327	2099327
3119114YVW	2099F00	2099F00	3119411121	2099651	2099651	3119994YVW	2099300	2099300
311911W pt	20680 pt	20680 pt	3119411131	2099657	2099657	3119997	20994	20994
311911W pt	20990 pt	20990 pt	3119411YVW	2099600	2099600	3119997111	2099413	2099413
311911WYVW pt	2068000 pt	2068000 pt	3119414	20353	20353	3119997121	2099423	2099423
311911WYVW pt	2099000 pt	2099000 pt	3119414111	2035311	2035311	3119997131	2099434	2099434
311911WYVW pt	2068002	2068002	3119414221	2035351	2035351	3119997141	2099455	2099455
311911WYVW pt	2099002 pt	2099002 pt	3119414YVW	2035300	2035300	3119997YVW	2099400	2099400
3119191	20961	20961	3119417	20354	20354	311999A	2099A	2099A
3119191100	2096100	2096100	3119417111	2035411	2035411	311999A111	2099A01	2099A01
3119194	20962	20962	3119417221	2035423	2035423	311999A121	2099A02	2099A02
3119194111	2096219	2096221 pt	3119417331	2035429	2035429	311999A131	2099A03	2099A03
3119194221	2096225	2096221 pt	3119417441	2035435	2035435	311999A141	2099A04	2099A04
3119194331	2096229	2096229	3119417YVW	2035400	2035400	311999A151	2099A05	2099A05
3119194YVW	2096200	2096200	311941W pt	20350 pt	20350 pt	311999A161	2099A06	2099A06
3119197 pt	20521 pt	20521 pt	311941W pt	20990 pt	20990 pt	311999AYVW	2099A00	2099A00
3119197 pt	20963	20963	311941WYVW pt	2035000 pt	2035000 pt	311999D	2099B pt	2099B pt
3119197111	2052155	2052151 pt	311941WYVW pt	2099000 pt	2099000 pt	311999D131	2099B11	2099B11
3119197221	2096300 pt	2096300 pt	311941WYVW pt	2035002 pt	2035002 pt	311999D141	2099B13	2099B13
3119197YVW pt	2052100 pt	2052100 pt	311941WYVW pt	2099002 pt	2099002 pt	311999D151	2099B21	2099B19 pt
3119197YVW pt	2096300 pt	2096300 pt	3119421 pt	2099E	2099E	311999DYVW	2099B00 pt	2099B00 pt
311919W pt	20520 pt	20520 pt	3119421 pt	28991 pt	28991 pt	311999G	20159	20159
311919W pt	20960	20960	3119421111	2899121	2899100 pt	311999G111	2015911	2015911
311919WYVW pt	2052000 pt	2052000 pt	3119421121	2099E31	2099E31	311999G121	2015913	2015913
311919WYVW pt	2096000	2096000	3119421131	2099E33	2099E33	311999G131	2015915	2015915
311919WYVW pt	2052002 pt	2052002 pt	3119421241	2099E38	2099E38	311999G141	2015917	2015917
311919WYVW pt	2096002	2096002	3119421351	2099E39	2099E39	311999G151	2015951	2015951
3119201	20951	20951	3119421YVW pt	2099E00	2099E00	311999G161	2015953	2015953
3119201111	2095111	2095111	3119421YVW pt	2899100 pt	2899100 pt	311999G171	2015955	2015955
3119201211	2095115	2095115	3119424 pt	20871	20871	311999G181	2015957	2015957
3119201331	2095121	2095121	3119424 pt	20871	20871	311999GYVW	2015900	2015900
3119201YVW	2095100	2095100	3119424 pt	20952 pt	20952 pt	311999J	20874 pt	20874 pt
3119204 pt	20432 pt	20432 pt	3119424111	2087111	2087111	311999J111	2087435	2087435
3119204 pt	20952 pt	20952 pt	3119424121	2087115	2087115	311999J121	2087437	2087437
3119204111	2095211	2095200 pt	3119424131	2087153	2087153	311999JYVW	2087400 pt	2087400 pt
3119204121	2043211	2043209 pt	3119424141	2095231	2095200 pt	311999M pt	20324 pt	20324 pt
3119204YVW pt	2043200 pt	2043200 pt	3119424YVW pt	2087100	2087100	311999M pt	2099G pt	2099G pt
3119204YVW pt	2095200 pt	2095200 pt	3119424YVW pt	2095200 pt	2095200 pt	311999M101	2032495	2032499 pt
3119207	2099D	2099D	3119427	2099B pt	2099B pt	311999M111	2099G11	2099G11
3119207111	2099D82	2099D82	3119427111	2099B01	2099B01	311999M121	2099G25	2099G25
3119207221	2099D83	2099D83	3119427121	2099B03	2099B03	311999M131	2099G41	2099G41
3119207231	2099D86	2099D86	3119427131	2099B07	2099B07	311999M141	2099G51	2099G51
3119207YVW	2099D00	2099D00	3119427251	2099B09	2099B09	311999M151	2099G85	2099G85
311920W pt	20430 pt	20430 pt	3119427YVW	2099B00 pt	2099B00 pt	311999M161	2099G91	2099G91
311920W pt	20950 pt	20950 pt	311942W pt	20870 pt	20870 pt	311999M171	2099G98	2099G98 pt
311920W pt	20990 pt	20990 pt	311942W pt	20950 pt	20950 pt	311999MYVW pt	2032400 pt	2032400 pt
311920WYVW pt	2043000 pt	2043000 pt	311942W pt	20990 pt	20990 pt	311999MYVW pt	2099G00 pt	2099G00 pt
311920WYVW pt	2095000 pt	2095000 pt	311942WYVW pt	28990 pt	28990 pt	311999W pt	20150 pt	20150 pt
311920WYVW pt	2099000 pt	2099000 pt	311942WYVW pt	2087000 pt	2087000 pt	311999W pt	20320 pt	20320 pt
311920WYVW pt	2099000 pt	2099000 pt	311942WYVW pt	2095000 pt	2095000 pt	311999W pt	20870 pt	20870 pt
311920WYVW pt	2099000 pt	2099000 pt	311942WYVW pt	2099000 pt	2099000 pt	311999W pt	20990 pt	20990 pt
311920WYVW pt	2043002 pt	2043002 pt	311942WYVW pt	2087002 pt	2087002 pt	311999W pt	2015002 pt	2015002 pt
311920WYVW pt	2095002 pt	2095002 pt	311942WYVW pt	2095002 pt	2095002 pt	311999WYVW pt	2032002 pt	2032002 pt
311920WYVW pt	2099002 pt	2099002 pt	311942WYVW pt	2099002 pt	2099002 pt	311999WYVW pt	2087002 pt	2087002 pt
			311942WYVW pt	2899002 pt	2899002 pt	311999WYVW pt	2099002 pt	2099002 pt

