

# Fruit and Vegetable Canning: 2002

Issued December 2004

EC02-311-311421 (RV)

## 2002 Economic Census

*Manufacturing*

Industry Series



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U.S. Department of Commerce  
Economics and Statistics Administration  
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-- Not applicable for this report.

# Introduction to the Economic Census

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## **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 to 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.

## **INDUSTRY CLASSIFICATIONS**

Data from the 2002 Economic Census are published primarily according to the 2002 North American Industry Classification System (NAICS). NAICS was first adopted in the United States, Canada, and Mexico in 1997. The 2002 Economic Census covers 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 Food Services
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), largely covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 100 subsectors (three-digit codes), 317 industry groups (four-digit codes), and, as implemented in the United States, 1,179 industries (six-digit codes).



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## **RELATIONSHIP TO HISTORICAL INDUSTRY CLASSIFICATIONS**

Prior to the 1997 Economic Census, data were published according to the Standard Industrial Classification (SIC) system. 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 1997 Economic Census *Bridge Between NAICS and SIC* demonstrates the relationships between NAICS and SIC industries. Where changes are significant, it may not be possible to construct time series that include data for points both before and after 1997.

Most industry classifications remained unchanged between 1997 and 2002, but NAICS 2002 includes substantial revisions within the construction and wholesale trade sectors, and a number of revisions for the retail trade and information sectors. These changes are noted in industry definitions and will be demonstrated in the *Bridge Between NAICS 2002 and NAICS 1997*.

For 2002, data for enterprise support establishments (those functioning primarily to support the activities of their company's operating establishments, such as a warehouse or a research and development laboratory) are included in the industry that reflects their activities (such as warehousing). For 1997, such establishments were termed auxiliaries and were excluded from industry totals.

## **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. (For selected industries, only payroll, employment, and classification are collected for individual establishments, while other data are collected on a consolidated basis.)

## **GEOGRAPHIC AREA CODING**

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for states, metropolitan and micropolitan statistical areas, counties, and corporate municipalities (places) including cities, towns, townships, 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 administrative sources is used as a basis for coding.

## **AVAILABILITY OF ADDITIONAL DATA**

All results of the 2002 Economic Census are available on the Census Bureau Internet site ([www.census.gov](http://www.census.gov)) and on digital versatile discs (DVD-ROMs) for sale by the Census Bureau. The American FactFinder system at the Internet site allows selective retrieval and downloading of the data. For more information, including a description of reports being issued, see the Internet site, write to the U.S. Census Bureau, Washington, DC 20233-6100, or call Customer Services at 301-763-4100.

## **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

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from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some service trades in 1933. Censuses of construction, manufacturing, and the other business 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 and 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 report forms.

The range of industries covered in the economic census expanded between 1967 and 2002. 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. New for 2002 is coverage of four industries classified in the agriculture, forestry, and fishing sector under the SIC system: landscape architectural services, landscaping services, veterinary services, and pet care services.

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. Reports for 1997 were published primarily on the Internet and copies of 1992 reports are also available there. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases that include all or 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 the 2002 Economic Census and related surveys is published in the *Guide to the 2002 Economic Census* at [www.census.gov/econ/census02/guide](http://www.census.gov/econ/census02/guide). More information on the methodology, procedures, and history of the census will be published in the *History of the 2002 Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).



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# Manufacturing

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## SCOPE

The Manufacturing sector (sector 31-33) comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying, as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership. The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing; and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

Manufacturing establishments often perform one or more activities that are classified outside the manufacturing sector of NAICS. For instance, almost all manufacturing has some captive research and development or administrative operations, such as accounting, payroll, or management. These captive services are treated the same as captive manufacturing activities. When the services are provided by separate establishments, they are classified to the NAICS sector where such services are primary, not in manufacturing.

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are

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considered manufacturing in NAICS: milk bottling and pasteurizing; water bottling and processing; fresh fish packaging (oyster shucking, fish filleting); apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations); as well as contracting on materials owned by others; printing and related activities; ready-mixed concrete production; leather converting; grinding of lenses to prescription; wood preserving; electroplating, plating, metal heat treating, and polishing for the trade; lapidary work for the trade; fabricating signs and advertising displays; rebuilding or remanufacturing machinery (i.e., automotive parts); ship repair and renovation; machine shops; and tire retreading.

**Exclusions.** There are activities that are sometimes considered manufacturing, but for NAICS are classified in another sector. These activities include logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting is considered a harvesting operation; the beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining; the construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction; establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve manufacturing establishments within the same organization. Data for such establishments are classified according to the nature of the service they provide. For example, separate headquarters establishments are reported in NAICS Sector 55, Management of Companies and Enterprises.

The reports described below exclude establishments of firms with no paid employees. These “nonemployers,” typically self-employed individuals or partnerships operating businesses that they have not chosen to incorporate, are reported separately in Nonemployer Statistics. The contribution of nonemployers, relatively small for this sector, may be examined at [www.census.gov/nonemployerimpact](http://www.census.gov/nonemployerimpact).

The reports described below cover all manufacturing establishments with one or more paid employees.

**Definitions.** Industry categories are defined in Appendix B, NAICS Codes, Titles, and Descriptions. Other terms are defined in Appendix A, Explanation of Terms.

## REPORTS

The following reports provide statistics on this sector:

**Industry Series.** There are 473 reports, each covering a single NAICS industry (six-digit code). 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. The industry reports also include data for states with 100 employees or more in the industry. The data in industry reports are preliminary and subject to change in the following reports.

**Geographic Area Series.** There are 51 separate reports, one for each state and the District of Columbia. Each state report presents similar statistics at the “all manufacturing” level for each state and its metropolitan and micropolitan areas 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.

### Subject Series:

x Manufacturing

2002 Economic Census

- **Industry-Product Analysis Summary.** This report presents value of shipments, value of product shipments, percentage of product shipments of the total value of shipments, and percentage of distribution of value of product shipments on the NAICS six-digit industry level and by the six- and seven-digit product code levels. It also includes miscellaneous receipts at the six- and seven-digit product code levels by NAICS six-digit industry levels.
- **General Summary.** This 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.
- **Product Summary.** This report summarizes the products data published in the industry reports. This report also includes a table with data for products that are primary to more than one industry, which are not in the industry reports.
- **Materials Summary.** This report summarizes the materials data published in the industry reports.
- **Concentration Ratio Summary.** This report publishes data on the percentage of value of shipments and value added accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Herfindahl-Herschmann indexes for each industry.
- **Location of Manufacturing Plants Summary.** This report contains 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.

**ZIP Code Statistics.** This report contains statistics on the number of establishments for the three- and six-digit NAICS industry by employment-size of the establishment by ZIP Code.

**Other reports.** Data for this sector are also included in reports with multisector coverage, including Nonemployer Statistics, Comparative Statistics, Bridge Between 2002 NAICS and 1997 NAICS, Business Expenses, and the Survey of Business Owners reports.

## GEOGRAPHIC AREAS COVERED

The level of geographic detail varies by report. Maps are available at [www.census.gov/econ2002maps](http://www.census.gov/econ2002maps). Notes specific to areas in the state are included in Appendix D, Geographic Notes.

1. The United States as a whole.
2. States and the District of Columbia.
3. Metropolitan and micropolitan statistical areas with 250 employees or more. A core based statistical areas (CBSA) contains a core area with a substantial population nucleus, together with adjacent communities having a high degree of social and economic integration with that core. CBSAs are differentiated into metropolitan and micropolitan statistical areas based on size criteria. Both metropolitan and micropolitan areas are defined in terms of entire counties, and are listed in Appendix E, Metropolitan and Micropolitan Statistical Areas.
  - a. Metropolitan Statistical Areas (metro areas). Metro areas have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
  - b. Micropolitan Statistical Areas (micro areas). Micro areas have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
  - c. Metropolitan Divisions (metro divisions). If specified criteria are met, a metro area containing a single core with a population of 2.5 million or more may be subdivided to form smaller groupings of counties referred to as Metropolitan Divisions.

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- d. Combined Statistical Areas (combined areas). If specified criteria are met, adjacent metro and micro areas, in various combinations, may become the components of a new set of areas called Combined Statistical Areas. The areas that combine retain their own designations as metro or micro areas within the larger combined area.
4. Counties and county equivalents defined as of January 1, 2002, with 500 employees or more. Counties are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs, census areas, and city and boroughs. Maryland, Missouri, Nevada, and Virginia have one place or more that is independent of any county organization and constitutes primary divisions of their states. These places are treated as counties and as places.
  5. Economic places with 500 employees or more.
    - a. Municipalities of 2,500 inhabitants or more defined as of January 1, 2002. These are areas of significant population incorporated as cities, boroughs, villages, or towns according to the 2000 Census of Population. For the economic census, boroughs and census areas in Alaska and boroughs in New York are not included in this category.
    - b. Consolidated cities defined as of January 1, 2002. Consolidated cities are consolidated governments that consist of separately incorporated municipalities.
    - c. Townships in Michigan, New Jersey, and Pennsylvania, and towns in New York, Wisconsin, and the six New England states with 10,000 inhabitants or more (according to the 2000 Census of Population).
    - d. Balance of county. Areas outside the entities listed above, including incorporated municipalities with populations of fewer than 2,500, town and townships not qualifying as noted above, and the remainders of counties outside places are categorized as "Balance of county."

## **DOLLAR VALUES**

All dollar values presented are expressed in current dollars; i.e., 2002 data are expressed in 2002 dollars, and 1997 data, in 1997 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.

## **COMPARABILITY OF THE 1997 AND 2002 ECONOMIC CENSUSES**

Both the 2002 Economic Census and the 1997 Economic Census present data based on the North American Industry Classification System (NAICS). While there were revisions to selected industries for 2002, this sector is not affected by those revisions.

For 2002, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include products primary to more than one industry, industry-product analysis, e-commerce value of shipments, and leased and nonleased detail employment statistics by subsectors.

## **RELIABILITY OF DATA**

All data compiled for this sector are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the actual universe; definition and classification difficulties; differences in the interpretation of questions; errors in recording or coding the data obtained; and other errors of collection, response, coverage, processing, and estimation for missing or misreported data. Selected data in tables titled "Detailed Statistics" are based on the Annual Survey of Manufactures and are subject to sampling errors as well as nonsampling errors.

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No direct measurement of these effects has been obtained except for estimation for missing or misreported data, as by the percentages shown in the tables. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors. More information on the reliability of the data is included in Appendix C, Methodology.

## **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 in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at [www.census.gov/epcd/ec02/disclosure.htm](http://www.census.gov/epcd/ec02/disclosure.htm).

The disclosure analysis for "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. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which 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 55,000 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 the Current Industrial Reports (CIR) program. The CIR program publishes selected detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. 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.

In addition, the County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county, and Statistics of U.S. Businesses provides annual statistics classified by the employment size of the enterprise, further classified by industry for the United States, and by broader categories for states and metropolitan areas.

## **CONTACTS FOR DATA USERS**

Questions about these data may be directed to the U.S. Census Bureau, Manufacturing & Construction Division, Information Services Center, 301-763-4673 or [ask.census.gov](mailto:ask.census.gov).

## **ABBREVIATIONS AND SYMBOLS**

The following abbreviations and symbols are used with these 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
S	Withheld because estimates did not meet publication standards
X	Not applicable
Z	Less than half the unit shown
a	0 to 19 employees
b	20 to 99 employees
c	100 to 249 employees



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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
nsk	Not specified by kind
-	Represents zero (page image/print only)
(CC)	Consolidated city
(IC)	Independent city

**Table 1. Historical Statistics for the Industry: 2002 and Earlier Years**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year <sup>1</sup>	Com- panies <sup>2</sup>	All estab- lish- ments <sup>3</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
			Number <sup>4</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
311421, Fruit and vegetable canning . . . . . 2002..	637	782	58 980	1 926 654	47 799	97 492	1 355 581	9 482 397	9 429 150	18 961 004	'605 295
2001..	N	N	59 172	1 803 749	50 912	101 694	1 321 252	9 016 895	9 420 532	18 321 591	679 210
2000..	N	N	60 972	1 818 597	52 344	104 973	1 312 000	8 116 781	9 642 220	17 732 611	776 497
1999..	N	N	58 769	1 796 809	50 187	102 729	1 291 120	7 846 184	9 607 709	17 394 635	723 020
1998..	N	N	63 526	1 758 331	53 049	109 409	1 276 359	7 520 952	9 328 313	16 878 471	475 024
1997..	661	820	63 612	1 709 578	52 561	105 423	1 230 906	6 940 605	8 877 038	15 801 279	529 704

<sup>1</sup>Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

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

<sup>3</sup>Includes establishments with payroll at any time during the year.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 2. Industry Statistics for Selected States: 2002**

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
311421, Fruit and vegetable canning												
United States.....	2	782	388	58 980	1 926 654	47 799	97 492	1 355 581	9 482 397	9 429 150	18 961 004	'605 295
California .....	2	146	89	15 889	516 341	13 594	27 495	398 427	1 991 629	2 293 984	4 316 831	'149 022
Florida .....	-	35	21	4 664	207 890	3 147	6 724	111 821	1 110 475	1 235 397	2 360 649	'143 819
Georgia .....	1	8	3	325	10 643	280	638	8 263	97 304	76 079	173 383	'11 243
Hawaii .....	1	17	2	682	20 698	634	1 079	17 790	48 977	52 253	101 230	'2 345
Illinois .....	2	26	16	1 629	54 790	1 392	2 761	40 298	217 856	188 270	405 956	'8 446
Michigan .....	-	29	16	1 498	43 908	1 202	2 441	27 984	213 225	207 189	422 736	'13 286
Minnesota .....	2	17	12	2 123	61 561	1 976	4 291	53 099	293 274	269 061	560 267	'12 030
New Jersey .....	2	15	8	1 290	46 457	883	1 662	28 463	315 623	279 162	595 167	'13 141
New York .....	3	49	23	3 746	128 988	2 769	5 503	80 730	977 240	874 778	1 851 579	'45 692
Oregon .....	3	30	14	1 748	42 852	1 404	2 513	30 305	258 671	177 696	431 921	'11 398
Texas .....	3	41	14	1 310	37 969	1 019	2 114	25 206	135 215	129 943	265 266	'7 146
Washington .....	1	32	17	3 071	82 505	2 642	5 082	61 986	306 308	385 904	693 605	'10 345
Wisconsin .....	2	56	44	5 234	167 725	4 022	8 786	108 342	621 792	562 254	1 181 459	'25 538

<sup>1</sup>Some 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 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.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 3. Detailed Statistics by Industry: 2002**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
<b>311421, Fruit and vegetable canning</b>	
Companies <sup>1</sup> .....	number.. 637
All establishments <sup>2</sup> .....	number.. 782
Establishments with 1 to 19 employees.....	number.. 394
Establishments with 20 to 99 employees.....	number.. 215
Establishments with 100 employees or more.....	number.. 173
All employees <sup>3</sup> .....	number.. 58 980
Total compensation.....	\$1,000.. 2 483 204
Annual payroll.....	\$1,000.. 1 926 654
Total fringe benefits.....	\$1,000.. 556 550
Production workers, average for year.....	number.. 47 799
Production workers on March 12.....	number.. 39 272
Production workers on May 12.....	number.. 42 215
Production workers on August 12.....	number.. 65 945
Production workers on November 12.....	number.. 43 695
Production worker hours.....	1,000.. 97 492
Production worker wages.....	\$1,000.. 1 355 581
Total cost of materials.....	\$1,000.. 9 429 150
Materials, parts, containers, packaging, etc., used.....	\$1,000.. 8 804 757
Resales.....	\$1,000.. 241 624
Purchased fuels.....	\$1,000.. 190 012
Purchased electricity.....	\$1,000.. 143 936
Contract work.....	\$1,000.. 48 821
Quantity of electricity purchased for heat and power.....	1,000 kWh.. 2 117 137
Quantity of electricity generated less sold for heat and power.....	1,000 kWh.. 348 536
Total value of shipments.....	\$1,000.. 18 961 004
Primary products value of shipments.....	\$1,000.. 16 666 430
Secondary products value of shipments.....	\$1,000.. 1 847 832
Total miscellaneous receipts.....	\$1,000.. 431 749
Value of resales.....	\$1,000.. 277 874
Contract receipts.....	\$1,000.. 127 290
Other miscellaneous receipts.....	\$1,000.. 26 585
Primary products specialization ratio.....	percent.. 90
Value of primary products shipments made in all industries.....	\$1,000.. 19 046 050
Value of primary products shipments made in this industry.....	\$1,000.. 16 666 430
Value of primary products shipments made in other industries.....	\$1,000.. 2 379 620
Coverage ratio.....	percent.. 88
Value added.....	\$1,000.. 9 482 397
Total inventories, beginning of year.....	\$1,000.. 4 155 316
Finished goods inventories.....	\$1,000.. 2 894 073
Work-in-process inventories.....	\$1,000.. 529 031
Materials and supplies inventories.....	\$1,000.. 732 212
Total inventories, end of year.....	\$1,000.. 3 902 256
Finished goods inventories.....	\$1,000.. 2 690 031
Work-in-process inventories.....	\$1,000.. 479 574
Materials and supplies inventories.....	\$1,000.. 732 651
Gross value of depreciable assets (acquisition costs) at beginning of year.....	\$1,000.. '6 820 559
Total capital expenditures (new and used).....	\$1,000.. '605 295
Buildings and other structures (new and used).....	\$1,000.. '136 820
Machinery and equipment (new and used).....	\$1,000.. '468 475
Automobiles, trucks, etc., for highway use.....	\$1,000.. '13 442
Computers and peripheral data processing equipment.....	\$1,000.. '31 941
All other expenditures for machinery and equipment.....	\$1,000.. '423 092
Total retirements.....	\$1,000.. '235 042
Gross value of depreciable assets at end of year.....	\$1,000.. '7 190 812
Depreciation charges during year.....	\$1,000.. '459 329
Total rental payments.....	\$1,000.. 215 005
Buildings and other structures.....	\$1,000.. 93 865
Machinery and equipment.....	\$1,000.. 121 140
Total other expenses <sup>4</sup> .....	\$1,000.. 837 591
Response coverage ratio <sup>5</sup> .....	percent.. 78
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. 254 268
Communications services <sup>4</sup> .....	\$1,000.. 11 250
Legal services <sup>4</sup> .....	\$1,000.. 7 593
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 3 774
Advertising and promotional services <sup>4</sup> .....	\$1,000.. 48 102
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. 7 712
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 38 185
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. 14 999
Taxes and license fees <sup>4</sup> .....	\$1,000.. 50 012
All other expenses <sup>4</sup> .....	\$1,000.. 401 695

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

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Based on Annual Survey of Manufactures (ASM) sample data.

<sup>5</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 4. Industry Statistics by Employment Size: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E <sup>1</sup>	All establishments <sup>2</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
311421, Fruit and vegetable canning											
All establishments .....	2	782	58 980	1 926 654	47 799	97 492	1 355 581	9 482 397	9 429 150	18 961 004	'605 295
Establishments with—											
1 to 4 employees .....	9	250	447	12 570	375	709	9 333	44 832	43 226	94 302	'2 685
5 to 9 employees .....	9	76	532	17 174	469	969	13 258	76 983	72 964	149 925	'4 161
10 to 19 employees .....	5	68	978	31 981	790	1 624	21 741	129 548	145 633	275 171	'11 736
20 to 49 employees .....	3	122	3 933	129 833	3 069	6 307	84 879	599 810	601 151	1 220 305	'40 020
50 to 99 employees .....	2	93	7 006	223 234	5 579	11 638	154 798	1 084 305	986 925	2 057 388	'57 348
100 to 249 employees .....	2	111	17 594	518 467	14 578	30 192	380 108	2 766 216	2 595 102	5 365 167	'145 063
250 to 499 employees .....	2	44	14 356	463 095	12 009	24 858	342 967	2 258 805	2 621 183	4 790 780	'171 360
500 to 999 employees .....	—	15	9 667	364 337	7 300	14 070	232 533	1 877 555	1 372 208	3 254 146	D
1,000 to 2,499 employees .....	—	3	4 467	165 963	3 630	7 125	115 964	644 343	990 758	1 753 820	D
2,500 employees or more .....	—	—	—	—	—	—	—	—	—	—	—
Administrative records <sup>4</sup> .....	9	345	1 899	59 132	1 673	3 403	45 543	250 431	228 916	479 074	'14 034

<sup>1</sup>Some 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 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.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Some 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.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 5. Industry Statistics by Primary Product Class Specialization: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments <sup>1</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Hours (1,000)	Wages (\$1,000)				
311421	Fruit and vegetable canning.....	782	58 980	1 926 654	47 799	97 492	1 355 581	9 482 397	9 429 150	18 961 004	'605 295
3114211	Canned fruits, except baby foods ...	44	9 581	292 520	8 262	16 014	229 252	929 448	1 282 270	2 226 542	'55 029
3114214	Canned vegetables, except hominy and mushrooms .....	72	10 809	309 738	9 577	21 009	248 978	1 638 674	1 389 112	2 944 430	'76 374
3114217	Canned hominy and mushrooms ...	3	e	D	D	D	D	D	D	D	D
311421A	Canned vegetable juices .....	3	e	D	D	D	D	D	D	D	D
311421D	Canned catsup and other tomato based sauces .....	53	8 999	318 293	7 502	14 530	237 312	1 631 367	2 038 221	3 684 898	'95 214
311421G	Canned jams, jellies, and preserves.	28	3 571	124 485	2 627	5 122	76 575	957 167	531 055	1 488 085	'29 694
311421J	Canned fruit juices, nectars, and concentrates .....	42	6 828	270 583	4 742	10 028	161 827	1 477 202	1 693 583	3 274 620	'175 056
311421M	Fresh fruit juices and nectars .....	26	3 923	141 739	2 636	5 310	73 037	1 140 606	974 018	2 123 502	'53 272
311421P	Pickles and other pickled products ..	42	5 771	180 209	4 385	9 234	112 571	793 094	741 605	1 525 098	'48 283

<sup>1</sup>Includes establishments with payroll at any time during the year.

<sup>2</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.



**Table 6a. Products Statistics: 2002 and 1997**

[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. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
311421	Fruit and vegetable canning .....	2002.. N 1997.. N	X X	X X	19 046 050 16 737 724
3114211	Canned fruits, except baby foods .....	2002.. N 1997.. N	X X	X X	2 164 481 2 281 045
31142111	Canned fruits, except baby foods .....	2002.. N 1997.. N	X X	X X	2 126 943 2 280 848
3114211111	Canned apples .....	1,000 cases (24/2 1/2 s) 2002.. 5 1997.. 10	X X	S S	76 065 82 294
3114211121	Canned applesauce .....	1,000 cases (24/2 1/2 s) 2002.. 13 1997.. 13	X X	S S	381 761 370 428
3114211131	Canned apricots .....	1,000 cases (24/2 1/2 s) 2002.. 4 1997.. 6	X X	S S	47 438 50 739
3114211141	Canned cherries, red pitted .....	1,000 cases (24/2 1/2 s) 2002.. 5 1997.. 8	X X	S S	19 578 20 262
3114211151	Canned cherries, sweet .....	1,000 cases (24/2 1/2 s) 2002.. 7 1997.. 8	X X	S S	21 259 21 231
3114211161	Canned cranberries and cranberry sauce .....	1,000 cases (24/2 1/2 s) 2002.. 3 1997.. 3	X X	D D	D D
3114211171	Canned fruit cocktail .....	1,000 cases (24/2 1/2 s) 2002.. 4 1997.. 3	X X	S X	52 521 230 636 268 957
3114211181	Canned fruits for salads, including mixed fruits (except fruit cocktail) .....	1,000 cases (24/2 1/2 s) 2002.. 3 1997.. 5	X X	S X	61 913 76 127
3114211191	Canned olives, ripe and green ripe, including stuffed .....	1,000 cases (24/2 1/2 s) 2002.. 7 1997.. 8	X X	S D	324 210 377 661
31142111A1	Canned peaches, including spiced .....	1,000 cases (24/2 1/2 s) 2002.. 4 1997.. 8	X X	D X	D 28 346.8
31142111B1	Canned pears, including spiced .....	1,000 cases (24/2 1/2 s) 2002.. 5 1997.. 7	X X	S X	458 173 130 683
31142111C1	Canned pineapple, all styles .....	1,000 cases (24/2 1/2 s) 2002.. 7 1997.. 2	X X	S D	196 709 D
31142111D1	Other canned fruits .....	1,000 cases (24/2 1/2 s) 2002.. 2 1997.. 13	X X	D X	D 141 194
31142111E1	Canned apple pie mixes .....	1,000 cases (24/2 1/2 s) 2002.. 18 1997.. 6	X X	D S	D 24 194
31142111F1	Canned cherry pie mixes .....	1,000 cases (24/2 1/2 s) 2002.. 8 1997.. 5	X X	X S	1 842.1 36 589 41 931
31142111G1	Canned peach pie mixes .....	1,000 cases (24/2 1/2 s) 2002.. 7 1997.. 3	X X	X S	3 378.6 67 006 5 489
31142111H1	Other canned fruit pie mixes .....	1,000 cases (24/2 1/2 s) 2002.. 4 1997.. 11	X X	X S	428.5 10 584 153 105
3114211Y	Canned fruits, except baby foods, nsk .....	2002.. N 1997.. N	X X	X X	2 432.0 68 277 37 538
3114211YWV	Canned fruits, except baby foods, nsk .....	2002.. N 1997.. N	X X	X X	37 538 197
3114214	Canned vegetables, except hominy and mushrooms .....	2002.. N 1997.. N	X X	X X	2 775 443 2 690 609
31142141	Canned vegetables, except hominy and mushrooms .....	2002.. N 1997.. N	X X	X X	2 767 192 2 684 637
3114214111	Canned green lima beans .....	1,000 cases (24/303 s) 2002.. 6 1997.. 7	X X	X X	1 399.0 2 604.1 23 843
3114214121	Canned beans, green and wax, including blue lake .....	1,000 cases (24/303 s) 2002.. 14 1997.. 19	X X	X X	54 004.3 55 019.6 462 044 412 657
3114214131	Canned carrots .....	1,000 cases (24/303 s) 2002.. 7 1997.. 11	X X	X X	3 582.6 32 219 5 581.6
3114214141	Canned vegetable combinations (mixed vegetables, succotash, carrots and peas, vegetable salad, etc.) .....	1,000 cases (24/303 s) 2002.. 10 1997.. 11	X X	X X	9 680.3 11 985.6 116 907
3114214151	Canned green peas .....	1,000 cases (24/303 s) 2002.. 9 1997.. 14	X X	X X	152 295 23 182.2 201 322
3114214161	Other canned peas (black-eyed, crowder, purple hull, field, etc.) .....	1,000 cases (24/303 s) 2002.. 6 1997.. 6	X X	X X	P4 882.8 2 391.2 40 578 23 688
3114214171	Canned pumpkin and squash, including pie mix .....	1,000 cases (24/303 s) 2002.. 3 1997.. 5	X X	D X	D 2 962.7 14 879
3114214181	Canned spinach .....	1,000 cases (24/303 s) 2002.. 4 1997.. 5	X X	X X	4 081.2 6 313.1 39 633 53 981
3114214191	Canned sweet potatoes, including pie mix .....	1,000 cases (24/303 s) 2002.. 3 1997.. 3	X X	D X	D 6 650.5 91 814
31142141A1	Canned white potatoes .....	1,000 cases (24/303 s) 2002.. 6 1997.. 11	X X	X X	5 720.8 6 646.6 46 963 48 433
31142141B1	Canned sauerkraut .....	1,000 cases (24/303 s) 2002.. 6 1997.. 7	X X	S X	58 413 70 814
31142141C1	Canned asparagus .....	1,000 cases (24/303 s) 2002.. 7 1997.. 8	X X	X X	3 134.9 4 344.6 77 807 82 210
31142141D1	Canned beets .....	1,000 cases (24/303 s) 2002.. 3 1997.. 5	X X	S X	75 267 61 709
31142141E1	Canned sweet corn, whole kernel .....	1,000 cases (24/303 s) 2002.. 6 1997.. 13	X X	X X	8 645.2 P43 624.9 444 265 423 862
31142141F1	Canned sweet corn, cream style .....	1,000 cases (24/303 s) 2002.. 7 1997.. 12	X X	S X	57 024.9 138 069 157 241
31142141G1	Canned tomatoes, including stewed .....	1,000 cases (24/303 s) 2002.. 23 1997.. 27	X X	S X	739 027 618 675
31142141H1	Other canned vegetables .....	1,000 cases (24/303 s) 2002.. 13 1997.. 28	X X	S X	208 915 213 871
3114214Y	Canned vegetables, except hominy and mushrooms, nsk .....	2002.. N 1997.. N	X X	X X	8 251 5 972
3114214YWV	Canned vegetables, except hominy and mushrooms, nsk .....	2002.. N 1997.. N	X X	X X	8 251 5 972
3114217	Canned hominy and mushrooms .....	2002.. N 1997.. N	X X	X X	141 725 141 646
31142171	Canned hominy and mushrooms .....	2002.. N 1997.. N	X X	X X	141 725 141 642
3114217111	Canned hominy .....	1,000 cases (24/303 s) 2002.. 3 1997.. 8	X X	X X	4 375.8 32 560 26 201
3114217121	Canned mushrooms .....	1,000 cases (24/303 s) 2002.. 5 1997.. 12	X X	S X	109 165 115 441
3114217Y	Canned hominy and mushrooms, nsk .....	2002.. N 1997.. N	X X	X X	- 4

See footnotes at end of table.

**Table 6a. Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
311421	Fruit and vegetable canning—Con.				
3114217	Canned hominy and mushrooms—Con.				
3114217Y	Canned hominy and mushrooms, nsk—Con.				
3114217YWV	Canned hominy and mushrooms, nsk	2002.. N	X	X	—
		1997.. N	X	X	4
311421A	Canned vegetable juices	2002.. N	X	X	601 700
		1997.. N	X	X	438 970
311421A1	Canned vegetable juices	2002.. N	X	X	577 454
		1997.. N	X	X	438 405
311421A111	Canned tomato juice, including combinations containing 70 percent or more tomato juice	2002.. 13	X	S	528 436
		1997.. 20	X	129.6	398 261
311421A121	Other canned vegetable juices	2002.. 4	X	S	49 018
		1997.. 6	X	P11.8	40 144
311421AY	Canned vegetable juices, nsk	2002.. N	X	X	24 246
		1997.. N	X	X	565
311421AYWV	Canned vegetable juices, nsk	2002.. N	X	X	24 246
		1997.. N	X	X	565
311421D	Canned catsup and other tomato based sauces	2002.. N	X	X	4 270 799
		1997.. N	X	X	4 107 843
311421D1	Canned spaghetti, pizza, and marinara sauces (except salsa), with or without other added ingredients, including sauces with less than 20 percent meat	2002.. N	X	X	1 427 515
		1997.. N	X	X	1 447 829
311421D111	Canned spaghetti, pizza, and marinara sauces (except salsa), with or without other added ingredients, including sauces with less than 20 percent meat	2002.. 27	X	S	1 427 515
		1997.. 32	X	168 565.2	1 447 829
311421D2	Canned tomato, catsup, chili, and barbecue sauces, tomato paste, and tomato pulp and puree	2002.. N	X	X	2 204 882
		1997.. N	X	X	2 316 782
311421D221	Canned tomato sauce (except pulp, puree, and paste), 7.1 oz to 10 oz	2002.. 6	X	S	341 225
		1997.. 16	X	13 872.5	159 494
311421D231	Canned tomato sauce (except pulp, puree, and paste), other sizes	2002.. 13	X	P43 144.5	218 237
		1997.. 21	X	68 441.9	253 974
311421D241	Canned catsup, 14 oz to 32 oz	2002.. 11	X	28 820.1	338 406
		1997.. 15	X	29 721.7	437 941
311421D251	Canned catsup, other sizes (including individual serving sizes)	2002.. 13	X	P79 886.7	505 302
		1997.. 19	X	62 433.5	601 747
311421D261	Canned chili sauce	2002.. 12	X	S	50 970
		1997.. 14	X	8 771.4	62 700
311421D271	Canned barbecue sauce	2002.. 25	X	S	120 621
		1997.. 25	X	22 193.0	166 154
311421D281	Canned tomato paste	2002.. 15	X	S	581 282
		1997.. 22	X	23 174.1	574 398
311421D291	Canned tomato pulp and puree	2002.. 9	X	S	48 839
		1997.. 9	X	8 052.4	60 374
311421D3	Canned salsa	2002.. N	X	X	557 521
		1997.. N	X	X	318 823
311421D3A1	Canned salsa, 16 oz	2002.. 17	X	S	406 121
		1997.. 31	X	11 264.6	192 198
311421D3B1	Canned salsa, 7 oz to 12 oz	2002.. 5	X	D	D
		1997.. 17	X	3 566.1	45 793
311421D3C1	Canned salsa, other sizes	2002.. 19	X	D	D
		1997.. 26	X	5 184.8	80 832
311421DY	Canned catsup and other tomato based sauces, nsk	2002.. N	X	X	80 881
		1997.. N	X	X	24 409
311421DYWV	Canned catsup and other tomato based sauces, nsk	2002.. N	X	X	80 881
		1997.. N	X	X	24 409
311421G	Canned jams, jellies, and preserves	2002.. N	X	X	1 265 359
		1997.. N	X	X	1 007 148
311421G1	Canned jams, jellies, and preserves	2002.. N	X	X	1 222 348
		1997.. N	X	X	974 222
311421G111	Canned strawberry jams and preserves, pure	2002.. 13	X	S	250 605
		1997.. 23	X	343.2	263 390
311421G121	Canned raspberry jams and preserves, pure	2002.. 8	X	S	143 444
		1997.. 17	X	211.8	151 590
311421G131	Other canned jams and preserves, pure	2002.. 17	X	S	231 083
		1997.. 29	X	144.1	96 676
311421G141	Canned grape jelly, pure	2002.. 10	X	S	145 333
		1997.. 18	X	236.8	158 247
311421G151	Other canned jellies, pure	2002.. 11	X	D	D
		1997.. 23	X	141.9	109 295
311421G161	Fruit spread	2002.. 12	X	922.4	29 445
		1997.. 9	X	P16.0	17 556
311421G171	Canned imitation jellies, jams, and preserves	2002.. 4	X	D	D
		1997.. 7	X	58.2	46 588
311421G181	Canned marmalades	2002.. 3	X	D	D
		1997.. 10	X	26.7	23 551
311421G191	Canned fruit butter	2002.. 9	X	S	48 656
		1997.. 15	X	S	46 812
311421G1A1	Canned maraschino cherries, excluding glaze and candied	2002.. 6	X	P28.9	59 166
		1997.. 7	X	10.6	60 517
311421GY	Canned jams, jellies, and preserves, nsk	2002.. N	X	X	43 011
		1997.. N	X	X	32 926
311421GYWV	Canned jams, jellies, and preserves, nsk	2002.. N	X	X	43 011
		1997.. N	X	X	32 926
311421J	Canned fruit juices, nectars, and concentrates	2002.. N	X	X	3 283 334
		1997.. N	X	X	2 915 653
311421J1	Canned orange juice, single strength	2002.. N	X	X	1 593 435
		1997.. N	X	X	1 433 361
311421J111	Canned orange juice, single strength	2002.. 32	X	S	1 593 435
		1997.. 36	X	494.1	1 433 361
311421J2	Canned fruit juices, except orange	2002.. N	X	X	1 626 820
		1997.. N	X	X	1 458 638

See footnotes at end of table.

**Table 6a. Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
311421	Fruit and vegetable canning—Con.				
311421J	Canned fruit juices, nectars, and concentrates—Con.				
311421J2	Canned fruit juices, except orange—Con.				
311421J221	Canned apple juice, single-strength . . . . . mil gal. .2002 . . . . .	22	X	S	413 335
	1997 . . . . .	34	X	235.8	491 595
311421J231	Canned grapefruit juice, single strength . . . . . mil gal. .2002 . . . . .	17	X	S	176 608
	1997 . . . . .	20	X	P61.3	188 923
311421J241	Canned prune juice, single strength . . . . . mil gal. .2002 . . . . .	13	X	D	D
	1997 . . . . .	8	X	D	D
311421J251	Other canned whole fruit juices and mixtures of whole fruit juices . . . . . mil gal. .2002 . . . . .	22	X	S	709 627
	1997 . . . . .	33	X	146.5	495 555
311421J261	Canned nectars, single strength . . . . . mil gal. .2002 . . . . .	4	X	D	D
	1997 . . . . .	3	X	D	D
311421J271	Fruit juices, concentrated, hot pack . . . . . mil gal. .2002 . . . . .	14	X	S	229 714
	1997 . . . . .	18	X	P58.7	191 130
311421JY	Canned fruit juices, nectars, and concentrates, nsk . . . . .	N	X	X	63 079
	1997 . . . . .	N	X	X	23 654
311421JYWV	Canned fruit juices, nectars, and concentrates, nsk . . . . .	N	X	X	63 079
	1997 . . . . .	N	X	X	23 654
311421M	Fresh fruit juices and nectars . . . . .	N	X	X	1 763 608
	1997 . . . . .	N	X	X	1 416 120
311421M1	Fresh fruit juices and nectars . . . . .	N	X	X	1 750 889
	1997 . . . . .	N	X	X	1 400 590
311421M111	Fresh orange juices and nectars, single strength . . . . . mil gal. .2002 . . . . .	62	X	S	831 791
	1997 . . . . .	110	X	P340.9	714 703
311421M121	Other fresh juices and nectars, single strength . . . . . mil gal. .2002 . . . . .	34	X	S	621 135
	1997 . . . . .	58	X	158.2	401 392
311421M131	Concentrated fruit juice, except for fountain use . . . . . mil gal. .2002 . . . . .	11	X	S	297 963
	1997 . . . . .	16	X	103.4	284 495
311421MY	Fresh fruit juices and nectars, nsk . . . . .	N	X	X	12 719
	1997 . . . . .	N	X	X	15 530
311421MYWV	Fresh fruit juices and nectars, nsk . . . . .	N	X	X	12 719
	1997 . . . . .	N	X	X	15 530
311421P	Pickles and other pickled products . . . . .	N	X	X	1 521 129
	1997 . . . . .	N	X	X	1 232 949
311421P1	Pickles and other pickled products . . . . .	N	X	X	1 458 308
	1997 . . . . .	N	X	X	1 231 331
311421P111	Pickles, dill cucumber, finished . . . . . mil gal. .2002 . . . . .	12	X	S	503 727
	1997 . . . . .	20	X	131.3	501 433
311421P121	Pickles, sour cucumber, finished . . . . . mil gal. .2002 . . . . .	4	X	D	D
	1997 . . . . .	5	X	D	D
311421P131	Pickles, sweet cucumber, finished . . . . . mil gal. .2002 . . . . .	8	X	S	202 038
	1997 . . . . .	14	X	122.1	197 155
311421P141	Pickles, cucumber, finished, refrigerated (overnight, half-sour, artificially acidified, etc.) . . . . . mil gal. .2002 . . . . .	7	X	S	147 550
	1997 . . . . .	16	X	44.7	152 248
311421P151	Other pickles and pickled products, finished (mushrooms, peppers, onions, etc.) . . . . . mil gal. .2002 . . . . .	19	X	S	177 514
	1997 . . . . .	20	X	20.5	86 040
311421P161	Horseradish, finished, excluding sauce . . . . . mil gal. .2002 . . . . .	3	X	1.3	15 476
	1997 . . . . .	11	X	3.8	24 052
311421P171	Relishes, finished . . . . . mil gal. .2002 . . . . .	19	X	S	129 170
	1997 . . . . .	20	X	33.4	134 309
311421P181	Sauerkraut, finished . . . . . mil gal. .2002 . . . . .	7	X	S	21 606
	1997 . . . . .	7	X	9.5	20 492
311421P191	Other pickled products, finished . . . . . mil gal. .2002 . . . . .	13	X	S	135 866
	1997 . . . . .	14	X	23.2	51 270
311421P1A1	Pickles, unfinished (salt stock) . . . . . mil gal. .2002 . . . . .	2	X	D	D
	1997 . . . . .	7	X	22.7	20 644
311421P1B1	Cherries, brined, unfinished . . . . . mil gal. .2002 . . . . .	2	X	D	D
	1997 . . . . .	3	X	4.1	19 145
311421P1C1	Other pickled products (mushrooms, sauerkraut, etc.), bulk, unfinished . . . . . mil gal. .2002 . . . . .	5	X	283.1	21 901
	1997 . . . . .	2	X	D	D
311421PY	Pickles and other pickled products, nsk . . . . .	N	X	X	62 821
	1997 . . . . .	N	X	X	1 618
311421PYWV	Pickles and other pickled products, nsk . . . . .	N	X	X	62 821
	1997 . . . . .	N	X	X	1 618
311421W	Fruit and vegetable canning, nsk, total . . . . .	N	X	X	1 258 472
	1997 . . . . .	N	X	X	505 741
311421WY	Fruit and vegetable canning, nsk, total . . . . .	N	X	X	1 258 472
	1997 . . . . .	N	X	X	505 741
311421WYWW	Fruit and vegetable canning, nsk, for nonadministrative-record establishments . . . . .	N	X	X	785 756
	1997 . . . . .	N	X	X	265 216
311421WYWY	Fruit and vegetable canning, nsk, for administrative-record establishments . . . . .	N	X	X	472 716
	1997 . . . . .	N	X	X	240 525

Note 1: For some establishments, data have been estimated from central unit values that 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.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 6b. Product Class Shipments for Selected States: 2002 and 1997**

[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 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3114211	Canned fruits, except baby foods	
	United States .....	2002.. 2 164 481
	United States .....	1997.. 2 281 045
	California .....	2002.. 1 076 455
	California .....	1997.. 1 285 145
	Michigan .....	2002.. 85 448
3114214	Canned vegetables, except hominy and mushrooms	
	United States .....	2002.. 2 775 443
	United States .....	1997.. 2 690 609
	California .....	2002.. 413 973
	California .....	1997.. 588 229
	Michigan .....	2002.. 23 231
3114217	Canned hominy and mushrooms	
	United States .....	2002.. 141 725
	United States .....	1997.. 141 646
	Minnesota .....	2002.. 42 978
	Minnesota .....	1997.. 442 247
	Wisconsin .....	2002.. 274 993
311421A	Canned vegetable juices	
	United States .....	2002.. 601 700
	United States .....	1997.. 438 970
	California .....	2002.. 185 338
	California .....	1997.. 123 329
	311421D	Canned catsup and other tomato based sauces
United States .....		2002.. 4 270 799
United States .....		1997.. 4 107 843
California .....		2002.. 1 317 461
California .....		1997.. 1 742 048
Illinois .....		2002.. 45 109
Illinois .....		1997.. N
New Jersey .....		2002.. 195 925
New Jersey .....		1997.. 201 014
Texas .....		2002.. 388 688
Texas .....		1997.. 279 737
311421G	Canned jams, jellies, and preserves	
	United States .....	2002.. 1 265 359
	United States .....	1997.. 1 007 148
	California .....	2002.. 246 628
	California .....	1997.. 184 445
	Illinois .....	2002.. 59 539
	Illinois .....	1997.. 17 367
	New York .....	2002.. 132 076
	New York .....	1997.. 148 922
	Oregon .....	2002.. 30 356
	Oregon .....	1997.. 19 720
311421J	Canned fruit juices, nectars, and concentrates	
	United States .....	2002.. 3 283 334
	United States .....	1997.. 2 915 653
	California .....	2002.. 496 935
	California .....	1997.. 296 526
	Florida .....	2002.. 1 673 673
	Florida .....	1997.. 1 414 387
	Illinois .....	2002.. 3 951
	Illinois .....	1997.. N
	Michigan .....	2002.. 71 833
	Michigan .....	1997.. 57 689
311421M	Fresh fruit juices and nectars	
	United States .....	2002.. 1 763 608
	United States .....	1997.. 1 416 120
	California .....	2002.. 248 506
	California .....	1997.. 231 038
	Florida .....	2002.. 368 273
	Florida .....	1997.. 432 847
	Michigan .....	2002.. 21 283
	Michigan .....	1997.. 32 211
	Minnesota .....	2002.. 6 256
	Minnesota .....	1997.. N
New York .....	2002.. 365 626	
New York .....	1997.. 221 483	
Texas .....	2002.. 20 807	
Texas .....	1997.. 28 271	
Wisconsin .....	2002.. 70 801	
Wisconsin .....	1997.. N	

See footnotes at end of table.

**Table 6b. Product Class Shipments for Selected States: 2002 and 1997—Con.**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
311421P	Pickles and other pickled products	
	United States..... 2002..	1 521 129
	..... 1997..	1 232 949
	California ..... 2002..	53 110
	..... 1997..	65 755
	Michigan..... 2002..	205 728
	..... 1997..	316 578
	New York ..... 2002..	25 186
	..... 1997..	29 041
	Texas ..... 2002..	67 033
	..... 1997..	32 240
	Wisconsin ..... 2002..	103 102
	..... 1997..	72 572

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 7. Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
311421	Fruit and vegetable canning		
0090001	Total materials .....	X	8 804 757
	.....2002..	X	8 387 233
	.....1997..		
11131000	Fresh oranges .....	D	D
	.....1,000 s tons .....	3 270.5	603 735
	.....2002..	S	200 900
	.....1997..	P1 513.4	249 173
	.....1997..		
11133901	Fresh apricots .....	S	12 476
	.....1,000 s tons .....	479.3	25 516
	.....2002..	S	34 008
	.....1997..	375.6	81 232
11133200	Fresh grapes .....	414.6	111 976
	.....1,000 s tons .....	599.9	143 777
	.....2002..		
	.....1997..		
11133903	Fresh peaches .....		
	.....1,000 s tons .....	S	103 304
	.....2002..	466.4	102 158
	.....1997..	D	D
11133905	Fresh pears .....	D	D
	.....1,000 s tons .....	S	62 467
	.....2002..	343.1	61 220
	.....1997..		
11132000	Fresh pineapple .....		
	.....1,000 s tons .....	S	216 663
	.....2002..	391.2	220 120
	.....1997..	127.9	33 649
11130003	Other fresh fruits (excluding oranges, apples, apricots, grapes, peaches, pears, pineapples, and grapefruit) .....	237.7	61 498
	.....1,000 s tons .....	100.9	11 424
	.....2002..	163.3	19 293
	.....1997..		
11121901	Fresh green peas .....		
	.....1,000 s tons .....	P1 053.5	269 428
	.....2002..	P656.6	136 964
	.....1997..	S	672 942
11121100	White potatoes .....	11 055.9	653 265
	.....1,000 s tons .....	P1 195.3	82 332
	.....2002..	1 917.1	134 632
	.....1997..		
11121905	Fresh sweet corn .....		
	.....1,000 s tons .....	9539.6	94 212
	.....2002..	P564.0	94 528
	.....1997..	S	51 089
11121903	Fresh green (snap) and wax beans .....	N	N
	.....1,000 s tons .....	91 317.3	138 628
	.....2002..	890.1	125 530
	.....1997..		
31131001	Sugar, cane and beet (sugar solids) .....		
	.....1,000 s tons .....	S	5 592
	.....2002..	83.7	12 370
	.....1997..	365.9	47 235
31122103	High fructose corn syrup (HFCS) (solids) .....	595.5	72 283
	.....mil lb .....	S	33 252
	.....2002..	S	33 858
	.....1997..		
31122117	Crystalline fructose (dry fructose) .....		
	.....mil lb .....	D	D
	.....2002..	D	D
	.....1997..		
31122119	Dextrose and corn syrup, including corn syrup solids (dry weight) .....		
	.....mil lb .....	68.7	34 963
	.....2002..	28.0	23 133
	.....1997..	S	543 417
31161003	Meat (fresh, frozen, and prepared) .....	129.2	604 316
	.....mil lb .....		
	.....2002..		
	.....1997..		
31161500	Poultry (dressed), purchased for processing (cooking, smoking, canning, raw-boning, freezing, and dehydrating) .....		
	.....mil lb .....	D	D
	.....2002..	D	D
	.....1997..		
31142311	Fruits and beans, dried .....		
	.....1,000 s tons .....	68.7	34 963
	.....2002..	28.0	23 133
	.....1997..	S	543 417
31142103	Fruit juices, concentrated .....	129.2	604 316
	.....mil gal .....		
	.....2002..		
	.....1997..		
31141105	Frozen fruits and vegetables, for further processing .....		
	.....mil lb .....	381.2	236 542
	.....2002..	677.1	381 832
	.....1997..	P1 124.0	333 471
31142105	Tomato paste (24 percent NTSS equivalent) .....	654.5	221 026
	.....mil lb .....	D	D
	.....2002..	968.2	1 512
	.....1997..		
31121101	Wheat flour .....		
	.....1,000 cwt .....	9232.3	59 047
	.....2002..	128.1	38 794
	.....1997..	X	100 295
31100019	Fats and oils, all types, purchased .....	X	106 400
	.....mil lb .....	X	109 720
	.....2002..	X	217 857
	.....1997..		
32310000	Printed labels .....		
	.....2002..	X	560 139
	.....1997..	X	329 451
00190003	Flexible packaging materials .....	X	1 073 032
	.....2002..	X	1 179 260
	.....1997..	X	366 966
32221001	Paperboard containers, boxes, and corrugated paperboard .....	X	556 879
	.....2002..		
	.....1997..		
33243101	Metal cans, lids, and ends .....		
	.....2002..	X	1 441 209
	.....1997..	X	1 463 403
32721301	Glass containers .....	X	1 131 868
	.....2002..	X	393 122
	.....1997..		
00970099	All other materials and components, parts, containers, and supplies .....		
	.....2002..	X	1 441 209
	.....1997..	X	1 463 403
00971000	Materials, ingredients, containers, and supplies, nsk .....	X	1 131 868
	.....2002..	X	393 122
	.....1997..		

Note 1: For some establishments, data have been estimated from central unit values that 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.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.



# Appendix A.

## Explanation of Terms

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### **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.

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## **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 that 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.

## **SELECTED PURCHASED SERVICES**

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of selected purchased services for the repair and maintenance services of buildings and/or machinery; communication services; legal services; accounting, auditing, and bookkeeping services; advertising and promotional services; expensed computer hardware and supplies and purchased computer services; refuse removal services; management consulting and administrative services; taxes and license fees; and all other expenses not previously stated. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services. These expenses are normally considered as nonproduction related costs purchased from other companies.

Included in the cost of selected purchased services for the repair and maintenance services of buildings and/or 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. Excluded from this item are extensive repairs or reconstruction that was capitalized, which is considered capital expenditures; costs incurred directly by the establishment in using its own work force to perform repairs and maintenance work; and repairs and maintenance provided by the building or machinery owner as part of the rental contract.

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Included in the cost of selected purchased services for communication is the actual expense incurred or payable during the year for any type of communication. Such types of communication include telephone, data transmission, telegraph, Internet, connectivity, FAX, telex, photo transmission, paging, cellular telephone, on-line access and related services, etc.

Included in the cost of selected purchased services for legal services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of the establishment for these services.

Included in the cost of selected accounting, auditing, and bookkeeping services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected advertising and promotional services are payments made to other companies for these services that were paid directly by the establishment. These include payments for printing, media coverage, and other services and materials. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected expensed computer hardware and supplies and purchased computer services are actual expenses incurred or payable during the year for this item. Purchases for computer hardware and supplies, computer services (software, data transmission, processing services, Web design, etc.) are all included. Excluded are services provided by other establishments of the same company (such as a separate central data processing unit).

Included in the cost of selected purchased refuse removal services are payments made to other companies for these services that were paid directly by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures and the salaries paid to employees of the establishment for these services.

Included in the cost of selected purchased management consulting and administrative services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected purchased taxes and license fees are payments made to other companies for these services that were paid directly by the establishment, excluding income, sales, payroll, and excise taxes. Excluded are also the salaries paid to employees of this establishment for these services.

### **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 nonreporters).

### **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.

### **NUMBER OF 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 that included the 12th of the months specified on the report form. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses.

These individuals comprise of all full-time and part-time employees who are on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November.

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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**

The “production workers” number 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**

The “other employees” 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.

### **TOTAL FRINGE BENEFITS**

This item is the employer’s costs for social security tax, unemployment tax, workmen’s compensation insurance, state disability insurance pension plans, stock purchase plans, union-negotiated benefits, life insurance premiums, and insurance premiums on hospital and medical plans for employees.

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 VALUE OF DEPRECIABLE ASSETS (ACQUISITION COSTS) 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 (BOY) and end of year (EOY). 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.

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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.

## **ESTABLISHMENT**

An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Data in this sector includes those establishments where manufacturing is performed. A separate report was required for each manufacturing establishment (plant) with one employee or more that were in operation at any time during the year.

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.

## **Company**

A company or ("enterprise") is comprised of all the establishments that operate under the ownership or control of a single organization. A company may be a business, service, or membership organization; consist of one or several establishments; and operate at one or several locations. It includes all subsidiary organizations, all establishments that are majority-owned by the company or any subsidiary, and all the establishments that can be directed or managed by the company or any subsidiary.

A company may have one or many establishments. Examples include product and service sales offices (retail and wholesale), industrial production plants, processing or assembly operations, mines or well sites, and support operations (such as an administrative office, warehouse, customer service center, or regional headquarters). Each establishment should receive, complete, and return a separate census form.

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.

## **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. 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.

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

In the manufacturing sector for 2002, 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). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product 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.

### **PRODUCTION-WORKER HOURS**

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

### **QUANTITY OF ELECTRICITY PURCHASED 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.

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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.

### **CAPITAL EXPENDITURES FOR NEW AND USED PLANT AND EQUIPMENT**

Represents the total new and used capital expenditures reported by establishments in operation and any known plants under construction.

These data include expenditures for:

1. Permanent additions and major alterations to manufacturing and mining establishments.
2. New and used machinery and equipment used for replacement and additions to plant capacity, if they are of the type for which depreciation, depletion, or (for mining establishments) Office of Minerals Exploration accounts are ordinarily maintained. In addition, for mining establishments, these data include expenditures made during the year for development and exploration of mineral properties. For manufacturing establishments, these data are broken down into three types.
  - a. Automobiles, trucks, etc. for highway use. These include vehicles acquired under a lease-purchase agreement and excludes vehicles leased or normally designed to transport materials, property, or equipment on mining, construction, petroleum development, and similar projects. These vehicles are of such size or weight as to be normally restricted by state laws or regulations from operating on public highways. It also excludes purchases of vehicles that are purchased by a company for highway use.
  - b. Computers and peripheral data processing equipment. This item include all purchases of computers and related equipment.
  - c. All other expenditures for machinery and equipment excluding automobiles and computer equipment.

Capital expenditures include work done by contract, as well as by the establishment's own workforce.

These data exclude expenditures for land and mineral rights and cost of maintenance and repairs charged as current operating expenses.

### **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.



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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: Reported contract work — receipts for work or services that a plant performed for others on their materials. Value of resales — sales of products brought and sold without further manufacture, processing, or assembly. 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: Primary products value of shipments. Secondary product value of shipments. 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.



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Before 1962, cost of materials and value of shipments were not published for some industries that 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 ratio**

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 ratio have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1 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

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### **311421 FRUIT AND VEGETABLE CANNING**

This U.S. industry comprises establishments primarily engaged in manufacturing canned, pickled, and brined fruits and vegetables. Examples of products made in these establishments are canned juices; canned jams and jellies; canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste; pickles, relishes, and sauerkraut.

# Appendix C.

## Methodology

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### SOURCES OF THE DATA

The manufacturing sector includes approximately 350,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing. The amount of information requested from manufacturing establishments was 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).

Establishments in the 2002 Economic Census are divided into those sent report forms and those not sent report forms. The coverage of and the method of obtaining census information from each are described below:

1. Establishments sent a report form:

- 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-10000) 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 473 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 certain 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

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for the respondent to describe significant materials not listed on the form.

A wide variety of special inquiries were 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 “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 “not specified by kind” (nsk) categories.

## 2. Establishments not sent a report form:

- a. 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 the Census Bureau’s ability to assign the correct six-digit NAICS industry classification to the establishment. For each six-digit NAICS 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 that requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these establishments, but were included in the product and material “not specified by kind” (nsk) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a 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 NAICS group classification codes available in the files. For manufacturing, these establishments were sent a

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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.

- b. All nonemployers, i.e., all firms subject to federal income tax, with no paid employees, during 2002 are excluded as in previous censuses. Data for nonemployers are not included in this report, but are released in the annual *Nonemployer Statistics* series.

The report forms used to collect information for establishments in this sector are available at [help.econ.census.gov/econhelp/resources/](http://help.econ.census.gov/econhelp/resources/).

A more detailed examination of census methodology is presented in the *History of the Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).

## **INDUSTRY CLASSIFICATION OF ESTABLISHMENTS**

The classifications for all establishments covered in the 2002 Economic Census — Manufacturing are classified in 1 of 473 industries in accordance with the industry definitions in the *North American Industry Classification System (NAICS), United States, 2002* manual. There were no changes between the 2002 edition and the 1997 edition affecting this sector. When applicable, Appendix F 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 2002, 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). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

For the 2002 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 2002, 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.

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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 that 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 2002 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 2002, 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 2002 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 ASM sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1999 survey year based on the 1997 Economic Census — Manufacturing. This sample will be in place through the 2003 ASM.

In 1997, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the establishments in the 1997 manufacturing population were partitioned into two components for developing estimates within the ASM. The details of each are described below:

1. Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies

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that operate at more than one physical location). Approximately 200,000 of the 370,000 establishments in the 1997 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 1999 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1997 census. Supplemental samples representing both 1998 and 1999 births (newly active establishments that were not included in the 1997 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 2003.

The 1999-2003 ASM sample design is similar to the one used since 1984. Companies in the 1997 Economic Census — Manufacturing 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 1999-2003 sample, there are approximately 500 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. Across these 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 1997 Economic Census — Manufacturing.

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 1997 industry classification and its 1997 product class data. For each product class (1,755) and six-digit industry (473), 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 the Census Bureau's 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) that permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

2. Nonmail stratum. The initial nonmail component of the survey was comprised of approximately 170,000 small, single-establishment companies that were tabulated as administrative records in the 1997 Economic Census — Manufacturing. 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.

## **RELIABILITY OF DATA**

All data compiled in the economic census are subject to nonsampling errors. Nonsampling errors can be attributed to many sources during the development or execution of the census. The following are two ways that further explain this method: ASM Estimating Procedure. Most of the ASM



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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 1997 (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 1998-2002 ASM estimates, the 1997 Economic Census — Manufacturing values serve as the base year. For the 2003 ASM, the base will be updated to be the 2002 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 contained approximately 170,000 individual establishments in 1999, 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. ASM Data Qualifications. 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.



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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.

#### **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 2002 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.

#### **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 in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at [www.census.gov/epcd/ec02/disclosure.htm](http://www.census.gov/epcd/ec02/disclosure.htm).

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. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

# Appendix D. Geographic Notes

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Not applicable for this report.

# Appendix E. Metropolitan Areas and Micropolitan Statistical Areas

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Not applicable for this report.

# Appendix F. Comparability of Product Classes and Product Codes: 2002 to 1997

2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published
3111111	3111111	3111111	3112111	3112111	3112111	3112214	3112214	3112214
311111111	311111111	311111111	311211111	311211111	311211111	311221411	311221411	311221411
311111121	311111121	311111121	311211121	311211121	311211121	311221421	311221421	311221421
311111231	311111231	311111231	311211331	311211331	311211331	311221431	311221431	311221431
311111341	311111341	311111341	311211441	311211441	311211441	3112214YVW	3112214YVW	3112214YVW
311111YVW	311111YVW	311111YVW	311211551	311211551	311211551			
			311211561	311211561	311211561	3112218	3112218 pt	3112217 pt
3111114	3111114	3111114	311211671	311211671	311211671	311221811	311221811	311221711
311114111	311114111	311114111	311211681	311211681	311211681	311221812	311221812	311221712
311114221	311114221	311114221	311211791	311211791	311211791	311221813	311221813	311221713 pt
311114231	311114231	311114231	3112117A1	3112117A1	3112117A1	3112218YVW	3112218YVW pt	3112217YVW pt
311114341	311114341	311114341						
311114351	311114351	311114351	3112117B1	3112117B1	3112117B1	311221A	311221A	311221A
311114YVW	311114YVW	311114YVW	3112118C1	3112118C1	3112118C1	311221A111	311221A111	311221A111
			3112118D1	3112118D1	3112118D1	311221A21	311221A21	311221A21
311111W	311111W	311111W	3112118E1	3112118E1	3112118E1	311221A231	311221A231	311221A231
311111WYVW	311111WYVW	311111WYVW	3112118F1	3112118F1	3112118F1	311221A241	311221A241	311221A241
311111WYVY	311111WYVY	311111WYVY	311211YVW	311211YVW	311211YVW	311221AYVW	311221AYVW	311221AYVW
3111191	3111191	3111191	3112114	3112114	3112114	311221W	311221W pt	311221W pt
311119111	311119111	311119111	311211411	311211411	311211411	311221WYVW	311221WYVW pt	311221WYVW pt
311119121	311119121	311119121	311211421	311211421	311211421	311221WYVY	311221WYVY pt	311221WYVY pt
3111191231	3111191231	3111191231	3112114YVW	3112114YVW	3112114YVW			
3111191341	3111191341	3111191341				3112221	3112221	3112221
3111191351	3111191351	3111191351	3112117	3112117	3112117	3112221111	3112221111	3112221111
3111191361	3111191361	3111191361	311211711	311211711	311211711	3112221221	3112221221	3112221221
3111191371	3111191371	3111191371	3112117121	3112117121	3112117121	3112221231	3112221231	3112221231
3111191381	3111191381	3111191381	3112117131	3112117131	3112117131	3112221241	3112221241	3112221241
3111191391	3111191391	3111191391	3112117141	3112117141	3112117141	3112221YVW	3112221YVW	3112221YVW
31111913A1	31111913A1	31111913A1	3112117151	3112117151	3112117151			
31111913B1	31111913B1	31111913B1	3112117161	3112117161	3112117161	3112224	3112224	3112224
31111913C1	31111913C1	31111913C1	3112117171	3112117171	3112117171	311222411	311222411	311222411
3111191YVW	3111191YVW	3111191YVW	3112117181	3112117181	3112117181	311222421	311222421	311222421
			3112117YVW	3112117YVW	3112117YVW	3112224261	3112224261	3112224261
						3112224YVW	3112224YVW	3112224YVW
3111194	3111194	3111194	311211A	311211A	311211A			
3111194100	3111194100	3111194100	311211A111	311211A111	311211A111	311222W	311222W	311222W
			311211A121	311211A121	311211A121	311222WYVW	311222WYVW	311222WYVW
3111197	3111197	3111197	311211A131	311211A131	311211A131	311222WYVY	311222WYVY	311222WYVY
3111197111	3111197111	3111197111	311211A141	311211A141	311211A141			
3111197121	3111197121	3111197121	311211A151	311211A151	311211A151	3112231	3112231	3112231
3111197YVW	3111197YVW	3111197YVW	311211A161	311211A161	311211A161	3112231100	3112231100	3112231100
			311211A171	311211A171	311211A171			
311119A	311119A	311119A	311211AYVW	311211AYVW	311211AYVW			
311119A100	311119A100	311119A100				3112234	3112234	3112234
						3112234100	3112234100	3112234100
311119D	311119D	311119D	311211B pt	311211D	311211D			
311119D111	311119D111	311119D111	311211B pt	3114234 pt	3114234 pt	3112237	3112237	3112237
311119D121	311119D121	311119D121	311211B111	311211D111	311211D111	3112237100	3112237100	3112237100
311119DYVW	311119DYVW	311119DYVW	311211B121	311211D121	311211D121			
			311211B131	3114234145	3114234141 pt	311223A	311223A	311223A
311119G	311119G	311119G	311211BYVW pt	311211DYVW	311211DYVW	311223A111	311223A111	311223A111
311119G100	311119G100	311119G100	311211BYVW pt	3114234YVW pt	3114234YVW pt	311223A221	311223A221	311223A221
						311223A231	311223A231	311223A231
311119J	311119J	311119J	311211W pt	311211W	311211W	311223AYVW	311223AYVW	311223AYVW
311119J111	311119J111	311119J111						
311119J121	311119J121	311119J121	311211W pt	311423W pt	311423W pt	311223D	311223D	311223D
311119JYVW	311119JYVW	311119JYVW	311211WYVW pt	311211WYVW	311211WYVW	311223D111	311223D111	311223D111
			311211WYVW pt	311423WYVW pt	311423WYVW pt	311223D121	311223D121	311223D121
311119M	311119M	311119M	311211WYVY pt	311211WYVY	311211WYVY	311223DYVW	311223DYVW	311223DYVW
311119M111	311119M111	311119M111	311211WYVY pt	311423WYVY pt	311423WYVY pt			
311119M121	311119M121	311119M121				311223G	311223G	311223G
311119M131	311119M131	311119M131	3112120 pt	3112120	3112120	311223G111	311223G111	311223G111
311119M141	311119M141	311119M141				311223G121	311223G121	311223G121
311119M151	311119M151	311119M151	3112120 pt	311999C	311999D pt	311223G131	311223G131	311223G131
311119M161	311119M161	311119M161	3112120111	3112120111	3112120111	311223G141	311223G141	311223G141
311119M171	311119M171	311119M171	3112120221	3112120221	3112120221	311223G151	311223G151	311223G151
311119M181	311119M181	311119M181	3112120331	3112120331	3112120331	311223G161	311223G161	311223G161
311119M191	311119M191	311119M191	3112120441	3112120441	3112120441	311223G171	311223G171	311223G171
311119MYVW	311119MYVW	311119MYVW	3112120451	3112120451	3112120451	311223G181	311223G181	311223G181
			3112120461	3112120461	3112120461	311223G191	311223G191	311223G191
311119P	311119P	311119P	3112120471	3112120471	3112120471	311223GYVW	311223GYVW	311223GYVW
311119P111	311119P113	311119P111	3112120481	3112120481	3112120481			
311119P121	311119P121	311119P121	3112120511	311999C100	311999D141 pt	311223J	311223J	311223J
311119P131	311119P131	311119P131	3112120YVW pt	3112120YVW	3112120YVW	311223J111	311223J111	311223J111
311119P141	311119P141	311119P141	3112120YVW pt	311999CYVW pt	311999DYVW pt	311223J121	311223J121	311223J121
311119P151	311119P151	311119P151	3112120YVY pt	3112120YVY	3112120YVY	311223J131	311223J131	311223J131
311119PYVW	311119PYVW	311119PYVW	3112120YVY pt	311999CYVW pt	311999DYVW pt	311223J141	311223J141	311223J141
						311223JYVW	311223JYVW	311223JYVW
311119R	311119T pt	311119T pt	3112130	3112130	3112130			
311119R121	311119T121	311119T121	3112130100	3112130100	3112130100	311223W	311223W	311223W
311119R131	311119T131	311119T131	3112130YVW	3112130YVW	3112130YVW	311223WYVW	311223WYVW	311223WYVW
311119R141	311119T141	311119T141	3112130YVY	3112130YVY	3112130YVY			
311119R151	311119T151	311119T151				3112252 pt	3112252 pt	3112252 pt
311119R161	311119T161	311119T161	3112211	3112211	3112211	3112252111	3112252111	3112252111
311119R171	311119T171	311119T171	3112211111	3112211111	3112211111	3112252221	3112252221	3112252221
311119R181	311119T181	311119T181	3112211121	3112211121	3112211121	3112252331	3112252331	3112252331
311119RYVW	311119TYVW pt	311119TYVW pt	3112211131	3112211131	3112211131	3112252441	3112252441	3112252441
			3112211141	3112211141	3112211141	3112252551	3112252551	3112252551
311119W	311119W pt	311119W pt	3112211251	3112211251	3112211251	3112252561	3112252561	3112252561
311119WYVW	311119WYVW pt	311119WYVW pt	3112211261	3112211261	3112211261	3112252571	3112252571	3112252571
311119WYVY	311119WYVY pt	311119WYVY pt	3112211371	3112211371	3112211371	3112252581	3112252581	3112252581
			3112211YVW	3112211YVW	3112211YVW			

2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published
3112252591	3112251591	3112251591	3113301	3113301	3113301	3114211	3114211	3114211
31122525A1	31122515A1	31122515A1	3113301100	3113301100	3113301000	3114211111	3114211111	3114211111
31122525A5A1	3112218135	3112217131 pt				3114211121	3114211121	3114211121
31122525B1	31122515B1	31122515B1	3113302	3113302	3113302	3114211131	3114211131	3114211131
31122525C1	31122515C1	31122515C1	3113302100	3113302100	3113302000	3114211141	3114211141	3114211141
3112252701	3112251701	3112251701				3114211151	3114211151	3114211151
3112252706	3112251706	3112251706	311330W pt	311320W pt	311320W pt	3114211161	3114211161	3114211161
3112252711	3112251711	3112251711				3114211171	3114211171	3114211171
3112252721	3112251721	3112251721	311330W pt	311330W	311330W	3114211181	3114211181	3114211181
3112252731	3112251731	3112251731	311330WYWW	311330WYWW	311330WYWW	3114211191	3114211191	3114211191
			311330WYWW	311330WYWW	311330WYWW	31142111A1	31142111A1	31142111A1
3112252741	3112251741	3112251741						
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3116135 pt	3116134	3116134				311812WYWW pt	311812WYWW pt	311812WYWW pt
3116135111	3116134111	3116134111	311712291	31171227B1	311712291	311812WYWW pt..	311812WYWW pt..	311812WYWW pt
3116135221	3116134221	3116134221	3117122AA1	31171228C1	3117122AA1	311812WYWW pt..	311812WYWW pt..	311812WYWW pt
3116135243 pt	3116134241 pt	3116134241	3117122AB1	31171228D1	3117122AB1	311812WYWW pt..	311812WYWW pt..	311812WYWW pt
3116135243 pt	3116134241 pt	3116134241	3117122BC1	31171229E1	3117122BC1			
3116135251	3116134251	3116134251	3117122CD1	3117122AF1	3117122CD1	3118130	3118130	3118130
3116135261	3116134261	3116134261	3117122CE1	3117122AG1	3117122CE1	3118130111	3118130111	3118130111
3116135271	3112251D1	3112251D1	3117122YVW	3117122YVW	3117122YVW	3118130221	3118130221	3118130221
3116135YVW pt	3112251YVW pt	3112251YVW pt				3118130331	3118130331	3118130331
3116135YVW pt	3116134YVW	3116134YVW				3118130341	3118130341	3118130341
			3117123	3117123	3117123	3118130351	3118130351	3118130351
311613W pt	311225W pt	311225W pt	311712311	311712311	311712311	3118130361	3118130361	3118130361
			3117123121	3117123121	3117123121	3118130371	3118130371	3118130371
311613WYVW pt	311225WYVW pt	311225WYVW pt	3117123131	3117123131	3117123131	3118130391	3118130391	3118130391
311613WYVW pt	311225WYVW pt	311225WYVW pt	311712321	311712321	311712321	31181303V1	31181303V1	31181303V1
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			3117123281	3117123281	3117123281			
3116151	3116151	3116151	3117123291	3117123291	3117123291	3118212	3118212 pt	3118212 pt
311615111	311615111	311615111	31171232A1	31171232A1	31171232A1	311821211	311821211	311821211
3116151221	3116151221	3116151221				311821221	311821221	311821221
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3116151441	3116151441	3116151441	31171232C1	31171232C1	31171232C1	3118212341	3118212341	3118212341
3116151551	3116151551	3116151551	31171232D1	31171232D1	31171232D1	3118212391	3118212391	3118212391
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			3117123YVW	3117123YVW	3117123YVW			
3116154	3116154	3116154	3117124	3117124	3117124	3118214	3118214	3118214
3116154111	3116154111	3116154111	311712411	311712411	311712411	3118214111	3118214111	3118214111
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3116157	3116157	3116157	3117124221	3117124221	3117124221	3118214351	3118214351	3118214351
3116157111	3116157111	3116157111	3117124231	3117124231	3117124231	3118214361	3118214361	3118214361
3116157221	3116157221	3116157221	3117124241	3117124241	3117124241	3118214371	3118214371	3118214371
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3116157YVW	3116157YVW	3116157YVW				3118214YVW	3118214YVW	3118214YVW
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311615A	311615A	311615A	311712WYVW	311712WYVW	311712WYVW	311821WYVW	311821WYVW pt..	311821WYVW pt
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			3118110111	3118110111	3118110111	3118220121	3118220121	3118220121
311615D	311615D	311615D	3118110121	3118110121	3118110121	3118220211	3118220211	3118220211
311615D111	311615D111	311615D111	3118110131	3118110131	3118110131	3118220231	3118220231	3118220231
311615D121	311615D121	311615D121	3118110141	3118110141	3118110141	3118220241	3118220241	3118220241
311615D131	311615D131	311615D131	3118110151	3118110151	3118110151	3118220251	3118220251	3118220251
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311615D151	311615D151	311615D151	31181101V1	31181101V1	31181101V1	3118220271	3118220271	3118220271
311615D161	311615D161	311615D161	3118110YVW	3118110YVW	3118110YVW	3118220YVW	3118220YVW	3118220YVW
311615D171	311615D171	311615D171	3118110YVW	3118110YVW	3118110YVW	3118220YVW	3118220YVW	3118220YVW
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311615WYVW	311615WYVW	311615WYVW	3118121121	3118121121	3118121121	3118230111	311999W pt	311999W pt
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			3118121241	3118121241	3118121241	3118230131	3118230111	3118230111
3117110	3117110	3117110	3118121351	3118121351	3118121351	3118230211	311999A115	311999A115 pt
3117110111	3117110111	3117110111	3118121361	3118121361	3118121361	3118230231	311999A135	311999A141 pt
3117110221	3117110221	3117110221	3118121471	3118121471	3118121471	3118230YVW pt	3118230YVW pt	3118230YVW pt
3117110331	3117110331	3117110331	3118121481	3118121481	3118121481	3118230YVW pt	311999AYVW pt	311999AYVW pt
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3117110351	3117110351	3117110351	31181214A1	31181214A1	31181214A1	3118230YVW pt	3118230YVW pt	3118230YVW pt
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3117110471	3117110471	3117110471	31181214J1	31181214J1	31181214J1			
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31171107C1	31171107C1	31171107C1	3118125111	3118124111	3118124111			
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			3118125261	3118124261	3118124261	3119111241	3119111241	3119111241
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