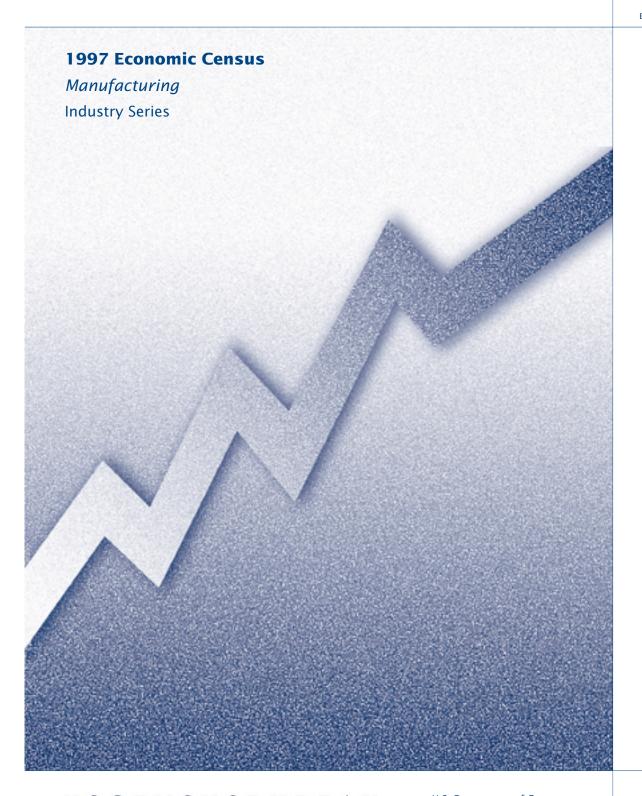
Perishable Prepared Food Manufacturing

1997

ssued June 1999

EC97M-3119G





Helping You Make Informed Decisions

U.S. Department of Commerce Economics and Statistics Administration U.S. CENSUS BUREAU



ACKNOWLEDGMENTS

The staff of the Manufacturing and Construction Division prepared this report. Judy M. Dodds, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination. Kenneth Hansen, Chief, Manufactured Durables Branch, assisted by Mike Brown, Renee Coley, Raphael Corrado, and Milbren Thomas, Section Chiefs, Michael Zampogna, Former Chief, Manufactured Nondurables Branch, assisted by Allen Foreman, Robert Miller, Robert Reinard, and Nat Shelton, Section Chiefs, and Tom Lee, Robert Rosati, and Tom Flood, Special Assistants, performed the planning and implementation. Stephanie Angel, Brian Appert, Stanis Batton, Carol Beasley, Chris Blackburn, Larry Blumberg, Vera Harris-Bourne, Brenda Campbell, Suzanne Conard, Vance Davis, Mary Ellickson, Matt Gaines, Merry Glascoe, Kay Hanks, Karen Harshbarger, Nancy Higgins, James Hinckley, Walter Hunter, Jim Jamski, Evelyn Jordan, Robert Lee, John Linehan, Paul Marck, Keith McKenzie, Philippe Morris, Joanna Nguyen, Betty Pannell, Joyce Pomeroy, Venita Powell, Cynthia Ramsey, Chris Savage, Aronda Stovall, Sue Sundermann, Thanos Theodoropoulos, Dora Thomas, Ann Truffa, Ronanne Vinson, Denneth Wallace, Tempie Whittington, Lissene Witt, and Mike Yamaner provided primary staff assistance.

Brian Greenberg, Assistant Chief for Research and Methodology Programs, assisted by Stacey Cole, Chief, Manufacturing Programs Methodology Branch, and Robert Struble, Section Chief, provided the mathematical and statistical techniques as well as the coverage operations. Jeffrey Dalzell and Cathy Ritenour provided primary staff assistance.

Mendel D. Gayle, Chief, Forms, Publications, and Customer Services Branch, assisted by **Julius Smith Jr.** and **Baruti Taylor,** Section Chiefs, performed overall coordination of the publication process.

Kim Credito, Patrick Duck, Chip Murph, Wanda Sledd, and Veronica White provided primary staff assistance.

The Economic Planning and Coordination Division, Lawrence A. Blum, Assistant Chief for Collection Activities and Shirin A. Ahmed, Assistant Chief for Post-Collection Processing, assisted by Dennis Shoemaker, Chief, Post-Collection Census Processing Branch, Brandy Yarbrough, Section Chief, Sheila Proudfoot, Richard Williamson, Andrew W. Hait, and Jennifer E. Lins, was responsible for developing the systems and procedures for data collection, editing, review, correction and dissemination

The staff of the National Processing Center, **Judith N. Petty,** Chief, performed mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review.

The Geography Division staff developed geographic coding procedures and associated computer programs.

The Economic Statistical Methods and Programming Division, Charles P. Pautler Jr., Chief, developed and coordinated the computer processing systems. Martin S. Harahush, Assistant Chief for Quinquennial Programs, assisted by Barbara Lambert and Christina Arledge were responsible for design and implementation of the computer systems. Gary T. Sheridan, Chief, Manufacturing and Construction Branch, Lori A. Guido and Roy A. Smith, Section Chiefs, supervised the preparation of the computer programs.

Computer Services Division, **Debra Williams**, Chief, performed the computer processing.

The staff of the Administrative and Customer Services Division, **Walter C. Odom,** Chief, performed planning, design, composition, editorial review, and printing planning and procurement for publications, Internet products, and report forms. **Cynthia G. Brooks** provided publication coordination and editing.

Perishable Prepared Food Manufacturing

EC97M-3119G

1997 Economic Census

Manufacturing **Industry Series**





U.S. Department of Commerce William M. Daley, Secretary Robert L. Mallett, **Deputy Secretary**

> **Economics** and Statistics Administration Robert J. Shapiro, **Under Secretary for Economic Affairs**

U.S. CENSUS BUREAU Kenneth Prewitt,

Director



Economics and Statistics Administration Robert J. Shapiro, Under Secretary for Economic Affairs



U.S. CENSUS BUREAU
Kenneth Prewitt,
Director
William G. Barron,
Deputy Director
William G. Bostic Jr.,
Chief, Manufacturing
and Construction Division

CONTENTS

	duction to the Economic Census	1 5
TABI	LES	
1. 2. 3. 4. 5. 6a. 6b. 7.	Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997	7 7 8 9 10 10
APP	ENDIXES	
A. B. C. D. E. F.	Explanation of Terms NAICS Codes, Titles, and Descriptions Coverage and Methodology Geographic Notes Metropolitan Areas Footnotes for Products Statistics and Materials Consumed by Kind Comparability of Product Classes and Product Codes: 1997 to 1992	A-1 B-1 C-1 G-1
	Not applicable for this report.	

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

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

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

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

ALL-NEW INDUSTRY CLASSIFICATIONS

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

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

52 Finance and Insurance 53

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

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

Management and Remediation Services

61 **Educational Services**

Health Care and Social Assistance 62

Arts. Entertainment, and Recreation 71

72 Accommodation and Foodservices

Other Services (except Public Administration)

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

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

RELATIONSHIP TO SIC

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

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

GEOGRAPHIC AREA CODING

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

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

BASIS OF REPORTING

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

DOLLAR VALUES

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

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

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

Special Tabulations

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

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

Manufacturing and Construction Division Service Sector Statistics Division

301-457-4673 301-457-2668

HISTORICAL INFORMATION

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

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

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

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

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

SOURCES FOR MORE INFORMATION

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

ABBREVIATIONS AND SYMBOLS

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

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

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

1997 ECONOMIC CENSUS INTRODUCTION 3

Manufacturing

SCOPE

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

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

GENERAL

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

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

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

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

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

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

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

GEOGRAPHIC AREAS COVERED

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

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

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

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

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

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

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

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

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

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

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

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

DISCLOSURE

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

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

AVAILABILITY OF MORE FREQUENT ECONOMIC **DATA**

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

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

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

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

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

NAICS		All		All employees		Production workers						Total capital
or SIC code	Industry	Com- panies ¹	estab- lish- ments ²	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)		Value of shipments (\$1,000)	expendi- tures (\$1,000)	
311991 209980	Perishable prepared food mfg . Food preparations, n.e.c. (pt)	416 N	443 443	20 687 20 687	462 006 462 006	15 707 15 707	29 790 29 790	272 038 272 038	1 397 082 1 397 082	1 357 722 1 357 722	2 740 447 2 740 447	124 723 124 723

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

Table 2. Industry Statistics for Selected States: 1997

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

		All establishments		All employees		Pr	oduction work	ers				
Industry and geographic area	E¹	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311991, PERISHABLE PREPARED FOOD MFG												
United States	1	443	193	20 687	462 006	15 707	29 790	272 038	1 397 082	1 357 722	2 740 447	124 723
Arizona . California . Colorado . Florida . Hawaii *	4 - 1 1 2	5 92 6 8 21	2 46 1 3 6	275 5 488 127 291 506	5 917 125 861 2 868 5 891 12 004	221 4 566 76 133 301	314 9 676 166 238 479	3 439 80 128 1 839 1 861 5 661	18 791 411 664 7 195 9 632 22 938	21 652 311 873 5 365 9 303 26 986	40 507 709 460 12 506 19 316 48 816	2 002 43 210 337 464 8 859
Illinois Indiana Kansas Louisiana Maryland	- - - -	24 7 4 8 9	10 4 4 3 4	1 267 414 560 352 460	36 386 11 140 11 840 5 343 10 618	977 327 405 262 361	2 279 586 839 354 537	19 049 7 835 6 209 2 981 5 049	100 767 21 562 46 738 45 265 26 702	87 659 33 682 58 601 21 713 30 912	188 038 55 325 104 870 69 217 57 083	5 154 737 3 635 724 3 968
Massachusetts Michigan Minnesota New Jersey New York	5 - 1 -	10 11 12 7 28	5 5 9 1 10	322 428 825 210 1 181	8 394 7 221 20 220 5 642 27 578	221 334 737 159 728	406 586 1 282 304 1 284	4 378 3 750 15 074 3 412 14 356	19 152 17 375 49 301 18 697 90 570	21 460 21 698 46 927 19 612 85 246	40 528 38 859 101 282 38 380 175 392	4 368 1 090 12 590 1 030 5 356
North Carolina Ohio Oregon Pennsylvania Texas	3 - 1 1	7 15 13 21 44	5 9 4 7 19	436 858 441 851 2 225	8 471 20 235 7 118 19 156 39 610	256 638 313 611 1 614	455 1 311 615 1 075 2 626	3 505 13 378 4 614 11 391 22 255	18 060 46 109 40 277 48 357 91 698	25 004 90 701 52 646 54 579 105 705	42 999 136 338 91 223 102 690 197 142	930 3 559 1 467 2 705 7 807
Virginia Washington Wisconsin	- - -	3 13 13	3 4 5	359 260 484	7 463 7 127 11 843	313 202 420	606 356 769	4 957 3 110 7 266	36 793 22 053 32 054	25 807 16 235 26 825	62 050 38 404 57 896	639 1 604 4 615

^{*} Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

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

Table 3. Detailed Statistics by Industry: 1997

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

ltem	Value	Item	Value
311991, PERISHABLE PREPARED FOOD MFG		311991, PERISHABLE PREPARED FOOD MFG—	
Companies ¹ number	416	Con. Value added\$1,000	1 397 082
All establishments	443 250 138 55	Total inventories, beginning of year \$1,000. Finished goods inventories, beginning of year \$1,000.	135 338 45 645 7 267 82 426
All employees number. Total compensation ² \$1,000. Annual payroll \$1,000. Total fringe benefits \$1,000.	20 687 559 617 462 006 97 611	Total inventories, end of year \$1,000. Finished goods inventories, end of year \$1,000. Work-in-process inventories, end of year \$1,000. Materials and supplies inventories, end of year \$1,000.	145 625 47 406 19 804 78 415
Production workers, average for year number. Production workers on March 15 number. Production workers on May 15 number.	15 707 15 683 15 772	Gross book value of total assets at beginning of year	887 233 124 723
Production workers on August 15number Production workers on November 15number	15 323 16 050	(new and used)\$1,000 Capital expenditures for machinery and equipment (new	21 638
Production-worker hours 1,000. Production-worker wages \$1,000.	29 790 272 038	and used)	103 085 36 787 975 169
Total cost of materials	1 357 722	Total depreciation during year ²	61 017
Cost of materials, parts, containers, etc., consumed \$1,000. Cost of resales \$1,000. Cost of fuels \$1,000. Cost of purchased electricity \$1,000. Cost of contract work \$1,000.	1 158 252 149 303 10 988 24 191 14 988	wachinery and equipment rental payments \$1,000	29 937 16 656 13 281
Quantity of electricity purchased for heat and power	389 264 -	structures ³ \$1,000 Response coverage ratio ⁴ percent Cost of purchased services for the repair of machinery and	3 580 68
Total value of shipments \$1,000. Primary products value of shipments \$1,000. Secondary products value of shipments \$1,000.	2 740 447 2 359 397 185 043	Response coverage ratio ⁴ percent	21 641 68 3 113 68
Total miscellaneous receipts \$1,000 Value of resales \$1,000 Contract receipts \$1,000 Other miscellaneous receipts \$1,000	196 007 194 429 384 1 194	Response coverage ratio ⁴ percent Cost of purchased accounting and bookkeeping services ³ \$1,000.	1 904 68 2 592 68
Primary products specialization ratio	92 3 004 474	Cost of purchased advertising services ³ \$1,000 Response coverage ratio ⁴ percent Cost of purchased software and other data processing	20 161 68
Value of primary products shipments made in this industry \$1,000 . Value of primary products shipments made in other industries \$1.000 .	2 359 397	services ³ \$1,000 . Response coverage ratio ⁴ percent . Cost of purchased refuse removal (including hazardous waste)	1 214 68
Coverage ratio	78	services ³ \$1,000	3 855 68

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

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

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

³Based on ASM sample data.

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

Table 4. Industry Statistics by Employment Size: 1997

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

	All establishments		All employees		Pi	oduction work	ers					
Employment size class	E ¹	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311991, PERISHABLE PREPARED FOOD MFG												
All establishments	1	443	193	20 687	462 006	15 707	29 790	272 038	1 397 082	1 357 722	2 740 447	124 723
Establishments with 1 to 4 employees	9	100	-	190	3 347	164	203	2 092	11 470	11 237	22 757	1 032
employees Establishments with 10 to 19	7	72	-	467	8 200	368	455	4 994	25 335	26 487	51 807	2 675
employees	3	78	-	1 091	20 129	844	1 167	12 341	57 824	63 486	121 264	4 501
employees	2	102	102	3 187	62 950	2 314	3 684	35 994	174 709	181 814	355 192	10 501
employees	1	36	36	2 546	56 917	1 884	3 520	34 410	165 160	154 867	318 338	20 835
employees	-	41	41	6 527	146 584	4 626	8 716	75 047	475 441	534 540	1 008 555	24 997
employees	-	11	11	3 727	88 496	2 940	5 755	58 647	297 171	256 370	557 309	26 397
employees	-	2	2	D	D	D	D	D	D	D	D	D
employees Establishments with 2,500 employees	-	1	1	D	D	D	D	D	D	D	D	D
or more	-	-	_	-	_	_	-	_	_	=	_	_
Administrative records ²	9	141	_	800	11 591	636	655	7 090	39 221	40 264	79 520	3 275

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

²Some payroll and sales data for small single-unit 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

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

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

NAICS industry or product class code	Industry or primary product class	All	All em	ployees	Production workers			Value added			Total capital
		estab- lish- ments	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	manufacturé ma	Cost of materials (\$1,000)	Value of shipments (\$1,000)	
311991	Perishable prepared food mfg	443	20 687	462 006	15 707	29 790	272 038	1 397 082	1 357 722	2 740 447	124 723

Products Statistics: 1997 and 1992

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

			19	97			19	992	
NAICS	Product	Number of companies		Product	shipments	Number of companies		Product	shipments
product code	Product	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)
311991	Perishable prepared foods	N	х	x	3 004 474	N	x	х	N
3119910	Perishable prepared food sold in bulk or packages, not frozen or canned	N	x	х	3 004 474	N	x	х	N
31199101	Salads sold in bulk or packages, not frozen or canned	N	х	X	722 095	N	x	x	N
3119910111	Salads sold in bulk or packages, not frozen or canned	71	X	X	722 095	72	x	X	515 727
31199102	Sandwiches, made from bread, sold in bulk or packages, not frozen or canned	N	X	X	275 307	N	x	x	N
3119910221	Sandwiches, made from bread, sold in bulk or packages, not frozen or canned	59	X	x	275 307	40	x	×	257 528
31199103	Vegetables and potatoes, peeled or cut	39	^	^	2/3 30/	40	^	^	237 326
3119910331	for the trade, sold in bulk or packages, not frozen or canned Vegetables and potatoes, peeled or cut	N	х	х	416 377	N	×	х	N
	for the trade, sold in bulk or packages, not frozen or canned	30	x	x	416 377	20	x	x	120 053
31199104	Tamales and other Mexican food specialities sold in bulk or packages, not								
3119910441	frozen or canned Tamales and other Mexican food specialties sold in bulk or packages.	N	Х	Х	149 457	N	×	X	N
	not frozen or canned	41	Х	Х	149 457	45	X	Х	249 521
31199105	Prepared meals, including tofu, meat, and poultry pies, sold in bulk or packages, not frozen or canned	N	x	х	805 304	N	x	X	N
3119910551	Prepared meals, including meat and poultry pies, sold in bulk or packages,		· ·	v				v	25.000
3119910561	not frózen Tofu (bean curd) sold in bulk or packages, not frozen or canned mil lb	23 25	X X	X	D D	20 24	X X	X P37.2	95 362 70 574
31199106	Pizza sold in hulk or packages, not frozen								
3119910671	or canned	N 22	X X	X S	70 578 70 578	N 20	X X	X 38.9	N 114 470
31199107	Other perishable prepared foods	N N	X	X	448 845	N N	x	36.9 X	114 470 N
3119910781	Other perishable prepared foods	85	x	X	448 845	64	x	X	221 965
3119910Y 3119910YWW	Perishable prepared foods, sold in bulk or packages, not frozen or canned, nsk	N	Х	х	116 511	N	x	х	N
2440040\/\\\	manufacturing, nsk, for nonadministrative-record establishments.	N	х	x	48 431	N	x	x	N
3119910YWY	Perishable prepared food, manufacturing, nsk, for administrative- record establishments	N	x	х	68 080	N	x	х	N

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

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

[Not applicable for this report]

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

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

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

Table 7. Materials Consumed by Kind: 1997 and 1992

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

NAICS		19	97	19	992
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)
311991	PERISHABLE PREPARED FOOD MFG				
00190041 11121100 11100025 31142309 11115001	Sweetcorn, fresh or frozen 1,000 s tons. White potatoes 1,000 s tons. Other fresh vegetables 1,000 s tons. Dried vegetables, except potatoes and corn mill b. Field corn, whole grain 1,000 s tons.	P0.4 314.1 9404.3 0.9 P15.2	301 64 096 188 400 1 102 2 783	N N N N N N N N N N N N N N N N N N N	N N N N N N N N N N N N N N N N N N N
31121117 31121127 31121101 11100027 31122101	Corn grits, meal, and flakes 1,000 cwt. Corn flour .mil lb. Wheat flour 1,000 cwt. Spices, raw mil lb. Corn syrup mil lb.	D 25.4 761.2 S S	D 7 606 8 612 4 472 408	N N N N N N N N N N N N N N N N N N N	N N N N N N N N N N N N N N N N N N N
31131003 31100019 32221001 001900A1 001900A3	Sugar, cane and beet (in terms of sugar solids)	P16.6 S X X X X	10 191 13 662 101 792 35 899 6 087	N N X X X	N N N N
32222401 00970099 00971000	Bags; uncoated paper and multiwall	X	D 489 517 219 132	X X X	N N N

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

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

Appendix A. Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

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

Inventory Data by Stage of Fabrication

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

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

COST OF MATERIALS

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

Included in this item are:

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

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

Specific Materials Consumed

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

Duplication in Cost of Materials and Value of Shipment

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

1997 ECONOMIC CENSUS APPENDIX A A-1

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

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

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

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

COST OF PURCHASED SERVICES

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

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

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

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

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

Response Coverage Ratio

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

DEPRECIATION CHARGES FOR FIXED ASSETS

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

EMPLOYEES

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

Production Workers

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

All Other Employees

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

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

FRINGE BENEFITS

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

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

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

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

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

NUMBER OF ESTABLISHMENTS AND COMPANIES

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

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

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

PAYROLL

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

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

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

PRODUCT CODES AND CLASSES OF PRODUCTS

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

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

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

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

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

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

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

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

PRIMARY PRODUCT CLASS CODE

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

PRODUCTION-WORKER HOURS

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

QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

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

RENTAL PAYMENTS

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

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

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

RETIREMENTS OF DEPRECIABLE ASSETS

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

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

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

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

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

VALUE ADDED

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

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

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

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

VALUE OF SHIPMENTS

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

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

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

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

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

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

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

1997 ECONOMIC CENSUS APPENDIX A A-5

Duplication in Cost of Materials and Value of Shipment

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

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

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

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

Specialization and Coverage Ratios

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

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

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

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

Appendix B. NAICS Codes, Titles, and Descriptions

311991 PERISHABLE PREPARED FOOD MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing perishable prepared foods, such as salads, sandwiches, prepared meals, fresh pizza, fresh pasta, and peeled or cut vegetables.

The data published with NAICS code 311991 include the following SIC industry:

2099 Food preparations, n.e.c. (pt)

Appendix C. Coverage and Methodology

MAIL/NONMAIL UNIVERSE

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

 Small single-establishment companies not sent a report form.

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

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

establishments but were included in the product and material "not specified by kind" (nsk) categories.

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

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

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

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

2. Establishments sent a report form.

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

a. ASM sample establishments.

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

MANUFACTURING APPENDIX C C-1

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

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

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

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

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

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

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

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

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

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

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

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

C-2 APPENDIX C MANUFACTURING

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

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

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

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

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

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

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

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

ESTABLISHMENT BASIS OF REPORTING

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

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

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

DESCRIPTION OF THE ASM SURVEY SAMPLE

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

MANUFACTURING APPENDIX C C-3

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

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

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

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

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

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

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

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

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

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

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

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

C-4 APPENDIX C MANUFACTURING

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

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

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

QUALIFICATIONS OF THE ASM DATA

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

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

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

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

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

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

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

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

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

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

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

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

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

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

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

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

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

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

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

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

C-6 APPENDIX C MANUFACTURING

Appendix D. Geographic Notes

Not applicable for this report.

1997 ECONOMIC CENSUS APPENDIX D D-1

Appendix E. Metropolitan Areas

Not applicable for this report.

1997 ECONOMIC CENSUS APPENDIX E E-1

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

Not applicable for this report.

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

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3111111 3111111111 3111111121 3111111231 3111111341 31111111111		20473 2047321 2047323 2047326 2047338 2047300	3112111561 3112111671 3112111681 3112111791 31121117A1 31121117B1	2041117	2041117 2041121 2041123 2041126 2041129 2041128 2041131	3112217 3112217111 3112217121 3112217131 3112217141 3112217YWV	20463	20463 2046353 2046354 2046356 2046359 2046300
3111114	2047441 2047443 2047445 2047454 2047457	2047443 2047445	31121118D1 31121118E1 31121118F1 3112111YWV 3112114 3112114	2041151 2041161 2041198 2041100 20412 20412	2041151 2041161 2041198 2041100 20412 2041213	311221A	20464 2046462 2046465 2046472 2046475 2046400	2046465 2046472
311111W	20470 2047000 2047002	20470 2047000 2047002	3112114121 3112114YWV 3112117	2041219 2041200 20413		311221WYWW 311221WYWY	2046000 2046002	2046000 2046002
3111191 3111191111 3111191121 3111191231 3111191341 3111191351	20481	20481 2048111 2048115 2048116 2048118 2048121	3112117111 3112217121 3112117131 3112117141 3112117151 3112117161 3112117171	2041311 2041315 2041321 2041323 2041365 2041393 2041395	2041311 2041315 2041321 2041323 2041365 2041393 2041395	3112221 3112221111 3112221221 3112221231 3112221241 3112221YWV	2075115 2075121 2075131 2075100	2075115 2075121 2075131 2075100
3111191361 3111191371 3111191381 3111191391 3111191381 31111913B1 31111913C1	2048122	2048122 2048123 2048124 2048131 2048132 2048133 2048134	3112117181 3112117YWV 311211A 311211A111 311211A121 311211A131	2041397 2041300 20415 2041511 2041513 2041515		3112224 3112224111 3112224221 3112224231 3112224241 3112224261 3112224YWV	2075231 2075251	2075231 2075251 2075261 2075297
3111191YWV 3111194 3111194100	2048100	2048100 20482 2048200	311211A141 311211A151 pt 311211A151 pt 311211A151 pt	2041521 2041530 pt 2041530 pt 2041530 pt	2041521 2041517 2041519 2041525	311222W	20750 pt	20750 pt 2075000 pt 2075002 pt
3111197 3111197111 3111197121 3111197YWV	20483	20483 2048301 2048302 2048300	311211A161 pt	2041590 pt 2041590 pt 2041590 pt	2041581 2041585 2041586	3112231 3112231100 3112234	20742	20741 2074100 20742
311119A 311119A100	20484	20484 2048400	311211A161 pt 311211A161 pt 311211A171 pt 311211A171 pt	2041590 pt 2041590 pt 2041596 pt 2041596 pt	2041591	3112234100 3112237 3112237100	2074200 20743 2074300	2074200 20743 2074300
311119D 311119D111 311119D121 311119DYWV	2048504 2048500	20485 2048503 2048504 2048500	311211A171 pt 311211AYWV 311211D pt 311211D pt	2041596 pt	2041595	311223A	2074451	20744 pt 2074414 2074451 2074498 2074400 pt
311119G	20486	20486 2048600 20487 2048705 2048706	311211D111 pt 311211D111 pt 311211D121 311211DYWV pt 311211DYWV pt	2034338 2041613 2041627	2034339 pt 2041613 2041627 2034300 pt 2041600	311223D	20761	20761
311119JYWV 311119M 311119M111 311119M121 311119M131 311119M141 311119M161	2048812	2048813	311211W pt 311211W pt 311211WYWW pt 311211WYWW pt 311211WYWY pt 311211WYWY pt	2041000 2034002 pt	2041000 2034002 pt	311223G 311223G111 311223G121 311223G131 311223G141 311223G151 311223G161 311223G171	20762 2076223 2076252 2076257 2076262 2076263 2076264 2076265	20762 2076223 2076252 2076257 2076262 2076263 2076264 2076265
311119M171 311119M181 311119M191 311119MYWV	2048825 2048831 2048833	2048825 2048831 2048833 2048800	3112120 3112120111 3112120221 3112120331	20440	20440 2044011 2044015 2044017	311223G181 311223G191 311223GYWV 311223J	2076268	2076273
311119P 311119P111 311119P121 311119P131 311119P141 311119P151	2048922	2048939 2048941 pt	3112120441 3112120451 3112120461 3112120471 3112120481 3112120YWW 3112120YWY	2044021 2044035 2044051 2044098 2044093 2044000 2044002	2044021 2044035 2044051 2044098 2044093 2044000 2044002	311223J111 311223J121 311223J131 311223J141 311223JYWV 311223JYWV	2076311	2076311 2076351 2076361 2076397 2076300 pt
311119PYWV 311119T 311119T111 311119T121 311119T131	2048A03	2048900 pt 2048A 2048A01 2048A03 2048A05 2048A07	3112130	2083002	20830 2083000 pt 2083000 pt 2083002 20461	311223W pt 311223WYWW pt 311223WYWW pt 311223WYWY pt 311223WYWY pt	2076000 pt	20760 pt 2074000 pt 2076000 pt 2074002 pt 2076002 pt
311119T141 311119T151 311119T161 311119T171 311119T181 311119TYWV	2048A09	2048A07 2048A09 2048A11 2048A12 2048A19 2048A00	3112211111 3112211121 3112211131 pt 3112211131 pt 3112211141 3112211251	2046103 2046104 2046114 pt		3112251 pt 3112251 pt 3112251 pt 3112251 pt	20744 pt	20744 pt 20752 pt 20763 pt 20773 pt
311119W		20480 pt 2048000 pt 2048002 pt	3112211261 3112211371 3112211YWV	2046125 2046129 2046100	2046125 2046129 2046100	3112251 pt 3112251111 3112251221	20791	20791 2079113
3112111 3112111111 3112111221 3112111331 3112111441 3112111551	20411 2041105 2041107 2041111 2041113 2041115	20411 2041105 2041107 2041111 2041113 2041115	3112214 3112214111 3112214221 3112214331 pt 3112214331 pt 3112214YWV	20462 2046211 2046213 2046218 pt 2046218 pt 2046200	20462 2046211 2046213 2046215 2046217 2046200	3112251231 3112251331 3112251441 3112251551 3112251561 3112251571 3112251581	2079142 2079151 2079152 2079153 2079154	2079142 2079151 2079152 2079153 2079154

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3112251591 31122515A1 31122515B1 31122515C1 31122515C1 3112251701 3112251706 3112251706 3112251711 3112251721 3112251731 3112251731	2074499	2077311 pt 2074499 2075299 2076391 2076394	3113207. 3113207111 3113207221 3113207221 3113207231 3113207251 3113207360 3113207371 3113207381 3113207391 3113207391	2066971 2066975 2066963 2066981 2066992 2066993	20669 2066921 2066911 2066911 2066975 2066963 2066981 2066992 2066993 2066995 2066900	3114121	20382 2038211 2038213 2038213 2038215 2038219 2038221 2038224 2038240 2038231 2038235	20382 2038211 2038213 2038213 2038219 2038221 2038221 2038240 2038231 2038235
3112251751 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112254 3112254	2076398	2076398 2074400 pt 2075200 pt 2076300 pt 2077300 pt 2079100	311320W 311320WYWW 311320WYWY 3113301 3113301 3113302	2066002	20660 2066000 2066002 20642 2064200 54410 pt	31141217B1	2038237 2038238 2038239 2038247 2038250 pt 2038250 pt 2038250 pt 2038250 pt	2038237 2038238 2038239 2038247 2038243 2038245 2038249 2038249
311225W pt 311225W pt 311225W pt 311225W pt	20740 pt	20740 pt 20750 pt 20760 pt 20770 pt	3113302000 311330W pt 311330W yt 311330WYWW pt 311330WYWW pt 311330WYWY pt	20640 pt	5441000 pt 20640 pt 54410 pt 2064000 pt 5441000 pt 2064002 pt 5441000 pt	3114124	20384	20384 2038451 2038459 2038463 2038469 2038400
311225W pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWY pt 311225WYWY pt 311225WYWY pt	2075000 pt 2076000 pt 2077000 pt 20779000 2074002 pt 2075002 pt 2076002 pt	2075000 pt 2076000 pt 2077000 pt 2079000 2074002 pt 2075002 pt 2076002 pt	3113401	20643	20643 2064300 54410 pt 5441000 pt 20648	311412W 311412WYWW 311412WYWW 3114211 3114211111 3114211111 31142111131 3114211131	2038000	2038000 2038002 20331 2033112 2033113 2033115 2033122
311225WYWY pt 311225WYWY pt 3112301 3112301111 3112301121 3112301231 3112301351	2077002 pt 2079002 20431	2077002 pt 2079002 20431 2043101 2043103 2043105 2043107 2043109	3113404110 3113404320 3113404530 3113404YWV 3113407 pt. 3113407 pt. 3113407221	2064814 2064815 2064800 20649	2064811 2064814 2064815 2064800 20649 2099G pt 2064976	3114211151 3114211161 3114211171 3114211181 3114211191 31142111B1 31142111B1 31142111C1	2033128 2033132 2033134 2033136 2033138 2033141 2033157	2033124 2033128 2033132 2033134 2033136 2033138 2033141 2033157
3112301361 3112301471 3112301481 3112301591 31123015A1 3112301YWV	2043111	2043111 2043113 2043116 2043118 2043119 2043100 20432 pt	3113407231 3113407241 3113407YWV pt 3113407YWV pt 311340W pt	2099G95 2064921 2064900	2099G98 pt 2064921 2064900 2099G00 pt 20640 pt 20990 pt	31142111D1 31142111E1 31142111F1 31142111G1 31142111H1 3114211YWV	2033159 2033161 2033163 2033165 2033169 2033100	2033161 2033163 2033165 2033169 2033100
3112304111 3112304121 3112304131 3112304141 3112304151 3112304YWV 311230W	2043203 2043205 2043207 2043213 2043200 pt 20430 pt 2043000 pt	2043203 2043205 2043207 2043209 pt 2043200 pt 20430 pt 2043000 pt	311340W pt 311340WYWW pt 311340WYWW pt 311340WYWW pt 311340WYWY pt 311340WYWY pt 311340WYWY pt	2064000 pt 2099000 pt 5441000 pt 2064002 pt 2099002 pt	54410 pt 2064000 pt 2099000 pt 5441000 pt 2064002 pt 2099002 pt 5441000 pt	3114214111 3114214121 3114214131 3114214141 3114214161 3114214161 3114214171 3114214181 3114214191	2033205 2033215 2033235 2033237 2033239 2033253 2033255	2033205 2033215 2033235 2033237 2033239 2033253
311230WYWY 3113110 3113110111 3113110221 3113110231 3113110YWW	20610	20610 2061011 2061065 2061085 2061000	3114111371	2037135 2037141 2037155 2037157 2037161 2037162 2037165	2037162 2037165	31142141B1 31142141B1 31142141C1 31142141D1 31142141E1 31142141F1 31142141H1	2033275	2033276 2033291 2033293 2033294 2033295 2033297
3113120	20620 2062009 2062012 2062014 2062015 2062031 2062035 2062041	20620 2062009 2062012 2062014 2062015 2062031 2062035 2062041	3114111481 3114111491 31141115A1 31141116B1 31141116C1 31141116D1 31141116F1	2037166	2037168 2037168 2037169 2037170 2037172 2037174 2037180 2037183	3114217 3114217 3114217111 3114217121 3114217YWV	2033298	2033298 2033200 20333 2033315 2033321 2033300 20335
3113120581 3113120591 31131205A1 31131205B1 31131207WW 31131207WW 31131300 3113130111	2062045 2062053 2062056 2062075 2062000 2062000 206300 2063009	2062045 2062053 2062056 2062075 2062000 2062002 206300 2063009	31141116G1 31141116H1 31141116L1 31141116L1 3114111YWV 31141141	2037185 2037186 2037187 2037194 2037197 2037100	2037185 2037186 2037187 2037194 2037197 2037100	311421A111 311421A121 311421AYWV 311421D 311421D111 311421D221 311421D231	2033515 2033598 2033500 20336 2033632 2033614 2033615	20336 2033631 pt 2033614 2033615
3113130221 3113130331 3113130441 3113130551 3113130561 3113130671 pt 3113130671 pt 3113130781 3113130791	2063012 2063013 2063015 2063035 2063035 2063053 pt 2063053 pt 2063076 2063082	2063012 2063013 2063015 2063033 2063035 2063035 2063051 2063076 2063076 2063082	31141141111 3114114121 3114114131 3114114131 3114114151 3114114161 3114114171 3114114181 3114114191 311411412A1	2037211 2037213 2037221 2037225 2037231 2037233 2037235 2037241 2037242 2037245	2037211 2037221 2037221 2037225 2037231 2037233 2037235 2037241 2037242 2037245	311421D241 311421D261 311421D261 311421D271 311421D281 311421D281 311421D391 311421D3B1 311421D3B1 311421D3C1 311421DYWV	2033622 2033623 2033651 2033655 2033667 2033667 2033658 2033658 2033660	2033622 2033623 2033651 2033665 2033667 2033691 2033631 pt 2033631 pt 2033631 pt 2033600
31131308A1 31131309B1 3113130YWW 3113130YWY 3113201 3113201111 3113201221 3113201231	2063084 2063091 2063000 2063002 20661 2066122 2066112 2066132	2063084 2063091 2063000 2063002 20661 2066122 2066132 2066132 2066132	31141143B1 31141144C1 31141145D1 31141145E1 31141146F1 31141146F1 31141146H1	2037248	2037248 2037249 2037253 2037255 2037261 2037263 2037269 2037200	311421G	20338	203388 2033811 2033812 2033813 pt 2033821 2033825 2033831 pt 2033831
3113201341 3113201YWV 3113204 3113204000	2066152 2066100 20662 2066200	2066152 2066100 20662 2066200	311411W 311411W 311411WYWW 311411WYWY	20370 2037000	2037200 20370 2037000 2037002	311421G171 311421G181 311421G191 311421G1A1 311421GYWV	2033841 2033851 2033861	2033841 2033851 2033861 2033800

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
311421J 311421J111 311421J221. 311421J231 311421J241. 311421J251	2033A31	2033A25 2033A11 2033A31 2033A41		2026313	2026316 2026318 2026300	3115200 3115200111 3115200221 3115200331 3115200441 3115200451	2024014 2024015 2024016	2024015 2024016 2024021
311421J261 311421J271 311421JYWV 311421M	2033A93	2033A93 2033A94 2033A00 2033B	311511A 311511A111 311511A121 311511AYWV	20265	20265 2026500 pt 2026500 pt 2026500 pt	3115200461 3115200471 3115200481 3115200491 31152005A1	2024023	2024023 2024099 pt
311421M111 311421M121 311421M131 311421MYWV	2033B12	2033B12 2033B19 2033B21 2033B00 20352	311511D 311511D111 311511D121 311511D131 311511D141	2026713 2026714 2026716	20267 2026711 2026713 2026714 2026716	31152005B1 31152005C1 31152005D1 31152005E1	2024037	2024031 pt 2024094 2024096 2024052
311421P111	2035211	2035211 2035213 2035215 2035219 2035221	311511D151 311511D161 311511DYWV 311511G	2026718 2026700 20268	2026717 2026718 2026700 20268 2026813	31152005G1	2024071 2024098 2024000 2024002	2024071 2024099 pt 2024000
311421P161 311421P171 311421P181 311421P191 311421P181	2035231	2035231 2035233 2035235 2035239 2035271	311511G121	2026815	2026815 2026819 2026800 20260	3116111 3116111111 3116111221 3116111331 3116111441	2011114 2011116 2011118	2011114 2011116 2011118
311421P1B1 311421P1C1 311421PYWV 311421W pt		2035275 2035298 2035200 20330	311511WYWW	2021013	2026000 2026002 20210 2021013 2021015	3116111551 3116111661 3116111671 31161111YWV	2011131	20112
311421W pt 311421WYWW pt 311421WYWW pt 311421WYWY pt 311421WYWY pt	20350 pt	2035000 pt 2033002 2035002 pt	3115120131 3115120YWW 3115120YWY	2021021 2021000 2021002 20223	2021002 20223	3116114111 3116114121 3116114131 3116114YWV	2011212 2011217 2011261 2011200	2011217 2011261
3114221 3114221100 3114224 3114224100		20322	3115131111 3115131121 3115131131 3115131141 3115131YWV	2022304 2022305 2022306	2022302 pt 2022301 pt	3116117111 3116117121 3116117YWV	2011312 2011352 2011300 20114	2011312 2011352 2011300 20114
3114227 3114227111 3114227121 3114227131 3114227141	20323	20323 2032370 2032371 2032375 2032376	3115134 3115134111 3115134221 3115134231 3115134241	20224	20224 2022411 2022413 2022423 2022425	311611A111 311611A121 311611A131 311611AYWV	2011417	2011412 2011417 2011451 2011400 20115
3114227151 3114227161 3114227171 3114227181 3114227191	2032379	2032379 2032382 2032384 2032386 2032391 2032300	3115134251 3115134YWV 3115137 3115137111 3115137121	2022429	2022429 2022400 20225 2022511 2022521	311611D111 311611D121 311611DYWV 311611G 311611G111	2011513	2011517 2011500 20116
311422A 311422A111 pt 311422A111 pt 311422A121	20324 pt	20324 pt 2032463 2032494 2032491	3115137YWV 311513A 311513A100	2022500 20226 2022600	2022500 20220 pt 2022000 pt	311611G121 311611G131 311611G141 311611G151 311611G161	2011622	2011622 2011631 2011635 2011641 2011652
311422A131 311422A136 311422A141 pt 311422A141 pt 311422A141 pt	2032493	2032493 2032499 pt 2032468 2032496 2032497 2032499 pt	311513W 311513WYWW 311513WYWY 3115141	2022002 20235 2023511	20220 pt 2022000 pt 2022002 20235 2023511	311611G171	2011661	2011600 20117
311422AYWV 311422W 311422WYWW 311422WYWY	2032400 pt	2032400 pt 20320 pt 2032000 pt	3115141221 3115141331 3115141441 3115141661	2023529 2023542 2023543 2023545	2023522 2023529 2023542 2023543 2023545	311611J131 311611J141 311611J151 311611JYWV	2011721 2011735 2011791	2011721 2011735 2011791 2011700
3114231 pt 3114231 pt 3114231111 3114231121	2099B pt	20342 2099B pt 2034200 2099B19 pt	3115141671 3115141681 3115141791 31151418A1 3115141YWV	2023548 2023549 2023551	2023547 pt 2023547 pt 2023549 2023551 2023500	311611M100	2011800 20119 2011914 2011922	2011800 20119 2011914 2011922
3114231YWV 3114234 3114234111 3114234121	20343 pt	2099B00 pt 20343 pt 2034313 2034315	3115144111 3115144121 3115144131 3115144241	20236	2023612 2023616 2023621 2023626	311611P131 311611P141 311611PYWV 311611T pt	2011997 2011900 2011B	2011997 2011900 2011B
3114234131 3114234141 3114234151 3114234161 3114234181	2034325	2034332 2034337	3115147 3115147111	2023600	2023600 20237 2023712	311611T pt 311611T111 311611T121 311611T131 311611T141	2011B17	2011B15 2011B17 2011B41 2011B45
311423W pt	20340 pt	20340 pt 20990 pt 2034000 pt	3115147131 3115147YWV	2023719 2023700	2023719 2023700 20238	311611T151 311611T161 311611T171 311611TYWV pt 311611TYWV pt	2011B59	2011B59 2048941 pt 2011B00 2048900 pt
311423WYWW pt 311423WYWY pt 311423WYWY pt 3115111	2099000 pt 2034002 pt 2099002 pt 20261	2099000 pt 2034002 pt 2099002 pt 20261 2026112	311514A121 311514A131 311514A241 311514A251 311514A261	2023803	2023803 2023819 pt 2023805 2023807 2023813	311611W pt 311611W pt 311611WYWW pt 311611WYWW pt 311611WYWY pt	20110	20110 20480 pt 2011000 2048000 pt 2011002
3115111221 3115111231 3115111241 3115111YWV	2026115	2026115 2026116 2026119 2026100	311514A271 311514AYWV 311514D 311514D111	2023821	2023819 pt 2023800 20239 2023921	3116121 pt	2048002 pt	2048002 pt 20136 20137 pt
3115114 3115114111 3115114221 3115114331	2026212	2026212 2026223 2026225 2026232	311514D121 311514D131 311514D141 311514D151 311514D161	2023925	2023923 2023925 2023928 2023932 2023938	3116121111 3116121121 3116121231 3116121341 3116121451	2013612	2013622 2013631 2013635 2013641
3115114451 3115114461 3115114471 3115114481	2026245 2026252	2026245 2026252 2026263	311514W	2023900	20230 2023000	3116121YWV pt	2013652	2013661 2013741 2013600

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3116124 3116124111	2013711	2013711	3117110YWY pt		2091002	3118124 3118124111	20512 2051230	20512 2051230
3116124221 3116124331	2013717	2013717	3117121	20922 2092201	20922 2092213 pt	3118124121 3118124231	2051231 2051243	2051231 2051243
3116124441	2013735	2013735	3117121121	2092202	2092213 pt	3118124241	2051244	2051244
3116124451 3116124YWV	2013791	2013791 2013700 pt	3117121131 3117121141	2092204	2092213 pt 2092213 pt	3118124251 3118124261	2051250 2051251	2051250 2051251
3116127	20138	20138	3117121151		2092213 pt 2092213 pt	3118124271	2051260	2051260
3116127100	2013800		3117121171	2092209	2092213 pt	3118124281 3118124291	2051261 2051270	2051261 2051270
311612A pt	2013B	2013B	3117121181 3117121191	2092210 2092211	2092213 pt 2092213 pt	31181242A1	2051271	2051271
311612A pt	51470 pt	51470 pt	31171211A1		2092213 pt	31181242B1 31181242C1	2051280	2051280 2051281
311612A111 311612A221	2013B11	2013B11	31171211B1 31171211C1	2092215 2092217	2092215 2092217	31181242D1	2051290	2051290
311612A331 311612A441		2013B13 2013B17	31171211D1 31171211E1	2092218	2092218	31181242E1 31181242F1	2051291 2051249	2051291 2051249
311612A451	2013B18	2013B18	31171211F1	2092223	2092223	3118124YWV		
311612A461 311612AYWV pt	2013B00	2013B00	31171211G1 31171211H1	2092224 2092225	2092224 2092225	3118127 3118127111	20514	20514 2051413
311612AYWV pt			31171211J1 31171211K1	2092226	2092226	3118127121 3118127131	2051415 2051419	2051415 2051419
311612W pt			31171211L1	2092228	2092228	3118127YWV	2051400	2051410
311612W pt	51470 pt	51470 pt 2013000	31171211M1	2092231 2092200	2092231 2092200	311812A	20515	20515
311612WYWW pt	5147000 pt	5147000 pt	3117122	20923	20923	311812A111	2051513	2051513 2051519
311612WYWY pt	5147002	5147002	3117122111 3117122221	2092311	2092311 2092313	311812AYWV	2051500	2051500
3116131		20771	3117122331	2092315	2092315	311812D pt	20518 pt	20513
3116131111 3116131121	2077111		3117122441 3117122451	2092317 2092319	2092317 2092319	311812D pt	20518 pt	20516
3116131121 3116131YWV	2077100	2077100	3117122461 3117122471	2092321	2092321 2092323	311812D pt 311812D111	20518 pt	20517 2051313
3116134 pt			3117122581	2092325	2092326 pt	311812D131	2051845	2051700
3116134 pt 3116134111	20773 pt	20773 pt 2077211	3117122691 31171226A1	2092328 2092331	2092327 pt 2092329 pt	311812D151 311812D181	2051850 2051890	2051600 2051398 pt
3116134221 3116134231	2077212	2077212	31171227B1		2092326 pt	311812D191 311812DYWV	2051892	2051398 pt 2051300
3116134241	2077298	2077298	31171228C1 31171228D1		2092327 pt 2092329 pt	311812W pt	20510	20510
3116134251 3116134261	2077346	2077346 2077311 pt	31171229E1 3117122AF1	2092336	2092326 pt 2092327 pt	311812W pt	20520 pt	20520 pt
3116134YWV pt 3116134YWV pt	2077200	2077200 2077300 pt	3117122AG1	2092339	2092329 pt	311812WYWW pt 311812WYWW pt	2051000	2051000 2052000 pt
311613W	20770 pt	20770 pt	3117122YWV		2092300	311812WYWY pt	2051002	2051002
311613WYWW 311613WYWY	2077000 pt	2077000 pt	3117123 3117123111	20925	20925 2092521	311812WYWY pt	2052002 pt	2052002 pt 20530
3116151			3117123121 3117123131	2092522 2092523	2092522 2092523	3118130111	20530	2053014
3116151111	2015133	2015133	3117123141 3117123251	2092524	2092524	3118130221 3118130331	2053011 2053020	2053011 2053020
3116151221 3116151331			3117123261	2092526	2092526	3118130341 3118130351	2053017 2053040	2053017 2053040
3116151441 3116151551	2015139	2015139 2015141	3117123271 3117123281	2092527 2092528	2092527 2092528	3118130361	2053030	2053025 pt
3116151YWV	2015100		3117123291 31171232A1	2092529 2092530	2092529 2092530	3118130371 3118130391	2053032	2053025 pt 2053050 pt
3116154 3116154111	20152	20152 2015221	31171232B1		2092533	31181303V1 3118130YWW	2053060 2053000	2053050 pt 2053000
3116154121	2015223	2015223	31171232C1 31171232D1	2092534	2092534 2092535	3118130YWY	2053002	2053002
3116154YWV			31171232E1	2092536	2092536	3118211 3118211111	20521 pt 2052125	20521 pt 2052125
3116157 3116157111	20153 2015322	20153 2015322	3117123YWV	2092500	2092500	3118211221 3118211331	2052135 2052123	2052135 2052123
3116157221 3116157331	2015326	2015326	3117124 pt	20773 pt	20773 pt	3118211341	2052133	2052133
3116157341 3116157YWV	2015327 2015300	2015327 2015300	3117124 pt 3117124111	20926 2092611	20926 2092611	3118211351 3118211391	2052159 2052197	2052151 pt 2052198 pt
311615A			3117124121	2092613 2092698	2092613 2092698	3118211YWV	2052100 pt	2052100 pt
311615A111		2015414	3117124211	2077363	2077361 pt	3118214 3118214111	20522	20522 2052213
311615AYWV		2015400	3117124221 3117124231	2077372	2077379 pt	3118214221 3118214331	2052217 2052215	2052217 2052215
311615D	20155	20155	3117124311 3117124YWV pt	2077314	2077311 pt 2077300 pt	3118214341	2052216	2052216
311615D111 pt	2015512 pt	2015511 2015513	3117124YWV pt	2092600		3118214351 3118214361	2052218 2052220	2052218 2052220
311615D111 pt	2015512 pt	2015515 2015531	311712W pt	20770 pt	20770 pt	3118214371 3118214381	2052221 2052235	2052221 2052235
311615D131 311615D141	2015532	2015532	311712W pt	20920	20920	3118214391 3118214YWV	2052231 2052200	2052231 2052200
311615D151	2015534	2015534	311712WYWW pt 311712WYWW pt	2092000	2077000 pt 2092000	311821W	2052200	2052200 20520 pt
311615D161 311615D171	2015548	2015548	311712WYWY pt 311712WYWY pt	2077002 pt	2077002 pt 2092002	311821WYWW	2052000 pt	2052000 pt
311615DYWV			3118110	54610	54610	3118220	2052002 pt 20450	2052002 pt 20450
311615W	20150 pt	20150 pt 2015000 pt	3118110111 3118110121	5461011 5461013	5461000 pt	3118220121	2045013	2045013
311615WYWY	2015002 pt		3118110131	5461015	5461000 pt	3118220211 3118220231	2045011 2045015	2045011 2045015
3117110 pt	•	•	3118110141 3118110151	5461017 5461019	5461000 pt	3118220241 pt 3118220241 pt	2045030 pt	2045017 2045019
3117110 pt	20773 pt	20773 pt	3118110161 31181101V1	5461021 5461090	5461000 pt 5461000 pt	3118220241 pt 3118220251	2045030 pt	2045025 2045021
3117110 pt 3117110111	20910 2091012	20910 2091012	3118110YWW 3118110YWY	5461000 5461002	5461000 pt 5461000 pt	3118220261 pt	2045090 pt	2045081
3117110221 3117110331	2091013	2091013 2091014		20511	·	3118220261 pt 3118220261 pt	2045090 pt	2045085 2045086
3117110341	2091015	2091015	3118121 pt	20521 pt	20511 20521 pt	3118220261 pt	2045090 pt	2045088
3117110351 3117110461	2091016 2077362	2091016 2077361 pt	3118121111	2051121	2051121	3118220261 pt 3118220271 pt	2045090 pt	2045089 2045091
3117110471 3117110481	2077364 2077371	2077366 pt 2077379 pt	3118121121 3118121231	2051122	2051122 2051127	3118220271 pt 3118220271 pt	2045096 pt 2045096 pt	2045092 2045095
3117110591	2091019	2091019	3118121241 3118121351	2051129 2051131	2051129 2051131	3118220YWW	2045000	2045000
31171106A1	2091031	2091031	3118121361	2051133	2051133	3118220YWY	2045002	2045002
31171107B1 31171107C1	2091071	2091051 2091071	3118121471 3118121481	2051135 2051137	2051135 2051137	3118230 3118230111	20980	20980 2098001
31171107D1 31171107E1	2091082 2091089	2091082 2091089	3118121491 31181214A1	2052188	2052198 pt 2052198 pt	3118230221 3118230331	2098007 2098003	2098002 pt 2098003
3117110YWW pt 3117110YWW pt	2077000 pt	2077000 pt	31181214G1	2051141	2051141 2051142	3118230341 3118230351	2098004 2098005	2098004 2098005
3117110YWW pt	2091000	2091000	3118121YWV pt	2051100	2051100	3118230361	2098006	2098006
3117110YWY pt	2077002 pt	2077002 pt	3118121YWV pt	2052100 pt	2052100 pt	3118230YWW	2098000	2098000

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3118230YWY	2098002	2098002 pt	3119301	20872	20872	3119910 pt	20990 pt	20990 pt
3118300 pt	20990 pt	20990 pt	3119301111	2087215	2087215 2087221	3119910 pt 3119910111	20999 pt	20999 pt 2099921
3118300 pt 3118300100	20999 pt 2099943	20999 pt 2099943	3119301YWV	2087200	2087200 20873	3119910221 3119910331	2099931	2099931 2099935
3118300YWW pt	2099000 pt	2099000 pt	3119304111	2087321	2087321	3119910441 3119910551	2099945	2099945
3118300YWW pt 3118300YWY	2099900 pt 2099002 pt	2099900 pt 2099002 pt	3119304121	2087323 2087325	2087325	3119910561	2099955	2099953 2099955
3119111 3119111111	20680 pt 2068013	20680 pt 2068013	3119304141	2087341	2087343	3119910671	2099958	2099958 2099959
3119111121 3119111131	2068015 2068017	2068015 2068017	3119304161 3119304YWV	2087345 2087300		3119910YWW pt 3119910YWW pt 3119910YWY	2099000 pt 2099900 pt	2099000 pt 2099900 pt
3119111241 3119111251	2068033 2068035	2068033 2068035	3119307	20874 pt 2087459	20874 pt 2087459	3119991	2099002 pt	2099002 pt 20991
3119111261 3119111371	2068037 2068053	2068037 2068053	3119307121 3119307131	2087461 2087471	2087461	3119991111 3119991121	2099113	2099113 2099115
3119111381 3119111391	2068055 2068057	2068055 2068057	3119307141 3119307YWV	2087481 2087400 pt	2087481	3119991131 3119991141	2099153	2099153 2099155
31191113A1 3119111YWV	2068061 2068000 pt	2068061 2068000 pt	311930W	20870 pt	20870 pt	3119991151 3119991YWV	2099159	2099159 2099100
3119114	2099F	2099F	311930WYWW	2087000 pt	2087000 pt 2087002 pt	3119994	20993	20993
3119114111 3119114121	2099F44	2099F44	3119411	20996		3119994111 3119994121 3119994YWV	2099325 2099327	2099325 2099327
3119114YWV	2099F00	2099F00	3119411111	2099651	2099651			2099300
·	20680 pt	•	3119411131 3119411YWV	2099657 2099600		3119997		20994 2099413
311911W pt	20990 pt 2068000 pt	20990 pt 2068000 pt	3119414 3119414111	20353 2035311	20353 2035311	3119997121	2099434	2099423 2099434
311911WYWW pt 311911WYWY pt	2099000 pt 2068002	2099000 pt 2068002	3119414221 3119414YWV	2035351 2035300		3119997141 3119997YWV	2099455 2099400	2099455 2099400
311911WYWY pt			3119417	20354	20354	311999A	2099A	2099A 2099A01
3119191 3119191100	20961 2096100	20961 2096100	3119417111 3119417221	2035411	2035411 2035423	311999A121 311999A131	2099A02	2099A02 2099A03
3119194	20962	20962	3119417331 3119417441	2035429 2035435	2035429 2035435	311999A141 311999A151	2099A04	2099A04 2099A05
3119194111 3119194221	2096225	2096221 pt	3119417YWV	2035400	2035400	311999A161 311999AYWV	2099A06	2099A06 2099A00
3119194331	2096229 2096200	2096229 2096200	311941W pt	20350 pt	•	311999D	2099B pt	2099B pt
3119197 pt	20521 pt	20521 pt	311941WYWW pt 311941WYWW pt	2035000 pt	2035000 pt	311999D131 311999D141	2099B11	2099B11 2099B13
3119197 pt 3119197111	20963 2052155	20963 2052151 pt	311941WYWY pt 311941WYWY pt	2035002 pt	2035002 pt 2099002 pt	311999D151	2099B21	2099B19 pt 2099B00 pt
3119197221 3119197YWV pt	2096300 pt	2096300 pt	3119421 pt	2099E	2099E	311999G	20159	20159 2015911
3119197YWV pt	2096300 pt	2096300 pt	3119421 pt	28991 pt	28991 pt 2899100 pt	311999G111	2015913	2015913
311919W pt	20520 pt	20520 pt	3119421111 3119421121 3119421131	2899121 2099E31	2099E31	311999G131	2015917	2015917
311919W pt 311919WYWW pt		20960 2052000 pt	3119421131 3119421241 3119421351	2099E38	2099E38	311999G151 311999G161 311999G171	2015953	
311919WYWW pt 311919WYWY pt	2096000	2096000	3119421YWV pt	2099E00	2099E00	311999G171 311999G181 311999GYWV	2015957	2015957
311919WYWY pt	2096002	2096002	3119421YWV pt	2899100 pt	2899100 pt 20871	311999GYWV	2015900	2015900 20874 pt
3119201 3119201111	20951	20951 2095111	3119424 pt	20952 pt	20952 pt	311999J111 311999J121	2087435	2087435 2087437
3119201211 3119201331	2095115	2095115 2095121	3119424111 3119424121	2087111 2087115	2087111 2087115	311999JYWV	2087400 pt	2087400 pt
3119201YWV	2095100	2095100	3119424131 3119424141	2087153 2095231	2087153 2095200 pt	311999M pt	20324 pt 2099G pt	20324 pt 2099G pt
3119204 pt	20432 pt		3119424YWV pt 3119424YWV pt	2087100 2095200 pt	2087100 2095200 pt	311999M101 311999M111	2032495	2032499 pt
3119204111	20952 pt 2095211	2095200 pt	3119427		2099B pt	311999M121		2099G25
3119204121 3119204YWV pt	2043211	2043209 pt	3119427111	2099B01	2099B01 2099B03	311999M141	2099G51	2099G51 2099G85
3119204YWV pt	2095200 pt		3119427131	2099B07	2099B07 2099B05	311999M161	2099G91 2099G98	2099G91 2099G98 pt
3119207	2099D82		3119427251 3119427YWV	2099B09	2099B09 2099B00 pt	311999MYWV pt 311999MYWV pt	2032400 pt	2032400 pt
3119207221	2099D83	2099D83 2099D86	311942W pt	20870 pt	20870 pt	311999W pt	·	20150 pt
3119207231 3119207YWV		2099D00	311942W pt	20950 pt	20950 pt	311999W pt	20320 pt	20320 pt
·	20430 pt	·	311942W pt	20990 pt	20990 pt	311999W pt	20870 pt	20870 pt
·	20950 pt	•	311942W pt	28990 pt 2087000 pt	2087000 pt	311999W pt 311999WYWW pt		20990 pt 2015000 pt
311920W pt	2043000 pt	2043000 pt	311942WYWW pt 311942WYWW pt	2095000 pt 2099000 pt	2095000 pt 2099000 pt	311999WYWW pt 311999WYWW pt	2032000 pt	2032000 pt 2087000 pt
311920WYWW pt 311920WYWW pt	2095000 pt 2099000 pt	2095000 pt	311942WYWW pt 311942WYWY pt	2899000 pt	2899000 pt 2087002 pt	311999WYWW pt	2099000 pt	2099000 pt 2015002 pt
311920WYWY pt 311920WYWY pt	2043002 pt 2095002 pt	2043002 pt 2095002 pt	311942WYWY pt 311942WYWY pt	2095002 pt	2095002 pt	311999WYWY pt 311999WYWY pt	2032002 pt	2032002 pt 2087002 pt
311920WYWY pt	2099002 pt	2099002 pt	311942WYWY pt	2899002 pt	2899002 pt	311999WYWY pt	2099002 pt	2099002 pt