# Confectionery Manufacturing From Purchased Chocolate

## 1997

Issued December 1999

EC97M-3113E

**1997 Economic Census** *Manufacturing* Industry Series

# USCENSUSBUREAU

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, Keeley Voor, 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.

# Confectionery Manufacturing From Purchased Chocolate

## 1997

Issued December 1999

EC97M-3113E

### **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

**Paula J. Schneider,** Principal Associate Director for Programs

**Frederick T. Knickerbocker,** Associate Director for Economic Programs

**Thomas L. Mesenbourg,** Assistant Director for Economic Programs

**William G. Bostic Jr.,** Chief, Manufacturing and Construction Division

#### CONTENTS

	duction to the Economic Census	1 5
TAB	LES	
1. 2. 3. 4. 5. 6a. 6b. 7.	Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997 Industry Statistics for Selected States: 1997 Detailed Statistics by Industry: 1997 Industry Statistics by Employment Size: 1997 Industry Statistics by Industry and Primary Product Class Specialization: 1997 Products Statistics: 1997 and 1992 Product Class Shipments for Selected States: 1997 and 1992 . Materials Consumed by Kind: 1997 and 1992	7 7 8 10 10 11 11 12
APP	ENDIXES	
А. В. С. Е. F. G.	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  F-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
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Foodservices
- 81 Other Services (except Public Administration)

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

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

#### **RELATIONSHIP TO SIC**

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

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

#### **GEOGRAPHIC AREA CODING**

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

#### 1997 ECONOMIC CENSUS

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

#### **BASIS OF REPORTING**

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

#### **DOLLAR VALUES**

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

All dollar values are shown in thousands of dollars.

#### AVAILABILITY OF ADDITIONAL DATA

#### **Reports in Print and Electronic Media**

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

#### **Special Tabulations**

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

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

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

#### **HISTORICAL INFORMATION**

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

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

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

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

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

#### SOURCES FOR MORE INFORMATION

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

#### **ABBREVIATIONS AND SYMBOLS**

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

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

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

This page is intentionally blank.

## Manufacturing

#### SCOPE

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

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

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

#### GENERAL

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

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

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

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

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

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

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

#### **GEOGRAPHIC AREAS COVERED**

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

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

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

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

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

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

#### COMPARABILITY OF THE 1992 AND 1997 CENSUSES

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

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing. Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

#### DISCLOSURE

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

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

## AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

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

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

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

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

NAICS or SIC code	Industry		All	All em	ployees	Pr	oduction work	ers				Total capital
		Com- panies <sup>1</sup>	estab- lish- ments <sup>2</sup>	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	materials	s shipments	expendi- tures (\$1,000)
	Confectionery mfg from purchased chocolate	796	861	32 871	853 160	26 670	52 257	603 027	4 815 479	3 126 892	7 879 752	272 269
206410 544110	Candy & other confectionery products & chewing gum (pt) . Candy, nut, & confectionery	N	421	29 421	804 245	23 884	48 286	570 289	4 706 764	3 043 818	7 684 326	264 895
544110	stores (pt)	N	440	3 450	48 915	2 786	3 971	32 738	108 715	83 074	195 426	7 374

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

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

### Table 2. Industry Statistics for Selected States: 1997

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

		All establishments		All employees		Production workers						
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)
311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE												
United States	-	861	195	32 871	853 160	26 670	52 257	603 027	4 815 479	3 126 892	7 879 752	272 269
California Massachusetts Michigan New York Ohio	1 - 3 2 1	88 37 34 43 35	22 10 4 15 12	3 138 915 490 1 341 1 036	87 920 18 216 9 289 31 265 17 261	2 522 760 290 1 095 808	4 451 1 151 419 2 091 1 192	56 149 13 657 3 935 21 318 11 523	314 047 106 847 24 715 81 907 50 016	249 513 60 234 16 531 52 569 44 486	559 319 164 198 41 110 135 447 96 844	26 116 1 274 1 138 4 138 2 127
Oregon	5 1 -	20 91 9 29	1 32 4 4	112 6 519 258 424	1 353 174 230 4 513 10 263	79 5 346 231 293	99 11 046 370 550	827 132 535 3 319 5 010	2 488 850 304 10 485 29 966	1 995 814 144 6 286 21 192	4 773 1 640 638 16 887 51 134	162 38 202 789 879

\* 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.

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

## Table 3. Detailed Statistics by Industry: 1997

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

		·	
Item	Value	Item	Value
311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE		311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE-Con.	
Companies <sup>1</sup> number	796		
All establishmentsnumber Establishments with 1 to 19 employeesnumber Establishments with 20 to 99 employeesnumber Establishments with 100 employees or morenumber	861 666 128 67	chocolate – retail chocolate – Con. Production workers, average for year	2 786 2 781 2 781
All employees number	32 871	Production workers on May 12	2 781 2 801
Total compensation <sup>2</sup> \$1,000.           Annual payroll.         \$1,000.           Total fininge benefits         \$1,000.	1 101 457 853 160 248 297		2 801 3 971 32 738
Production workers, average for year number	26 670	Total cost of materials\$1,000 Cost of materials, parts, containers, etc., consumed\$1,000	83 074
Production workers, average for yearnumber Production workers on March 12number Production workers on May 12number Production workers on August 12number Production workers on November 12number.	25 719 24 335 26 872 29 754	Cost of resales         \$1,000.           Cost of fuels         \$1,000.           Cost of purchased electricity         \$1,000.	70 761 9 855 669 1 459
Production-worker hours	52 257 603 027	Cost of contract work	330 21 553
Total cost of materials	3 126 892 2 855 034 172 696	Quantity of electricity generated less sold for neat and power 1,000 kwn	195 426
Cost of fresales	172 696	Total value of shipments       \$1,000.         Primary products value of shipments       \$1,000.         Secondary products value of shipments       \$1,000.         Total miscellaneous receipts       \$1,000.         Value of resales       \$1,000.         Contract receipts       \$1,000.         Other miscellaneous receipts       \$1,000.	
Cost of purchased electricity\$1,000	22 873 52 805	Total miscellaneous receipts\$1,000	X X X X X X
	23 484	Contract receipts	X
Quantity of electricity purchased for heat and power	970 641 D	Other miscellaneous receipts	
Total value of shipments         \$1,000           Primary products value of shipments         \$1,000           Secondary products value of shipments         \$1,000           Total miscellaneous receipts         \$1,000           Value of resales         \$1,000           Contract receipts         \$1,000           Other miscellaneous receipts         \$1,000	7 879 752 6 748 538	Value of primary products shipments made in this industry \$1,000	X X X
Secondary products value of shipments\$1,000 Total miscellaneous receipts\$1,000	815 248 315 966	Value of primary products shipments made in other industries	х
Value of resales\$1,000 Contract receipts\$1,000	309 658 D	Coverage ratio percent.	х
Other miscellaneous receipts \$1,000	D	Value added\$1,000.	108 715
Primary products specialization ratio percent Value of primary products shipments made in all industries \$1,000	89 7 027 945	Total inventories, beginning of year\$1,000	18 384
Primary products specialization ratio	6 748 538 279 407	Total inventories, beginning of year       \$1,000         Finished goods inventories, beginning of year       \$1,000         Work-in-process inventories, beginning of year       \$1,000         Materials and supplies inventories, beginning of year       \$1,000	9 446 708 8 230
Coverage ratio percent	96	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	19 498 10 481
Value added \$1,000	4 815 479	Work-in-process inventories, end of year	705
Total inventories, beginning of year       \$1,000         Finished goods inventories, beginning of year       \$1,000         Work-in-process inventories, beginning of year       \$1,000         Materials and supplies inventories, beginning of year       \$1,000	693 274 384 305 40 691 268 278	Gross book value of total assets at beginning of year	X X
	788 561	(new and used)\$1,000 Capital expenditures for machinery and equipment (new	х
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	463 412 43 801 281 348	(new and used)	X X X
Gross book value of total assets at beginning of year	2 735 601 272 269	Total depreciation during year <sup>2</sup> \$1,000	х
Total capital expenditures (new and used)	56 574 215 695	Total rental payments <sup>2</sup> \$1,000         Buildings and other structures rental payments <sup>2</sup> \$1,000         Machinery and equipment rental payments <sup>2</sup> \$1,000	X X X
and used)	49 189 2 958 681	Cost of purchased services for the repair of buildings and other structures <sup>3</sup> \$1 000	x
Total depreciation during year <sup>2</sup> \$1,000.	165 430	structures <sup>3</sup> \$1,000. Response coverage ratio <sup>4</sup>	X X
Total rental payments <sup>2</sup> \$1.000	49 387	equipment <sup>3</sup> \$1,000	××
Buildings and other structures rental payments <sup>2</sup>	29 557 19 830	Response coverage ratio <sup>4</sup> percent.         Cost of purchased communications services <sup>3</sup> \$1,000.         Response coverage ratio <sup>4</sup> percent.         Cost of purchased legal services <sup>3</sup> \$1,000.	x x x x x x x x x x x x x x x x x x x
Cost of purchased services for the repair of buildings and other structures <sup>3</sup> \$1,000	10 311	Response coverage ratio <sup>4</sup> percent.	Ŷ
structures <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup>	77	Cost of purchased accounting and bookkeeping services <sup>3</sup> \$1,000. Response coverage ratio <sup>4</sup>	Ŷ
equipment <sup>3</sup> \$1,000. Response coverage ratio <sup>4</sup> percent. Cost of purchased communications services <sup>3</sup> \$1,000.	46 001 77	Response coverage ratio <sup>4</sup> percent.	â
Cost of purchased communications services <sup>3</sup>	4 995		X X
Response coverage ratio <sup>4</sup>	3 104 77	Response coverage ratio <sup>4</sup> percent Cost of purchased refuse removal (including hazardous waste)	
Response coverage ratio <sup>4</sup>	2 868	services <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup> percent	X X
Response coverage ratio <sup>4</sup>	77 100 7 <u>39</u>	3113302, Confectionery mfg from purchased	
Cost of purchased software and other data processing	77	chocolate – commercial chocolate	
services <sup>3</sup>	3 128 77	Companies <sup>1</sup> number	Ν
Cost of purchased refuse removal (including hazardous waste) services <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup> percent.	4 053 77	All establishments	421 255
3113301, Confectionery mfg from purchased		Establishments with 20 to 99 employeesnumber Establishments with 100 employees or morenumber	100 66
chocolate-retail chocolate		All employees number Total compensation <sup>2</sup>	29 421 1 038 872
Companies <sup>1</sup> number	N	Annual payroll	804 245 234 627
All establishmentsnumber Establishments with 1 to 19 employeesnumber	440 411	Production workers, average for year number.	23 884
Establishments with 20 to 99 employeesnumber Establishments with 100 employees or morenumber	28	Production workers on March 12	22 938 21 554
All employees	3 450	Production workers on May 12	24 091 26 953
I otal compensation <sup>2</sup> \$1,000 Annual payroll\$1,000	62 585	Production-worker hours	48 286
Total fringe benefits	13 670	Production-worker wages	570 289
8 NAICS 311330		MANUFACTURING-INDUST	BY SERIES

#### 8 NAICS 311330

#### MANUFACTURING-INDUSTRY SERIES

### Table 3. Detailed Statistics by Industry: 1997-Con.

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

Item	Value	Item	Value
311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE-Con.		311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE—Con.	
3113302, Confectionery mfg from purchased chocolate—commercial chocolate—Con.		3113302, Confectionery mfg from purchased chocolate – commercial chocolate – Con.	769 063
Total cost of materials\$1,000 Cost of materials, parts, containers, etc., consumed\$1,000	3 043 818 2 784 273	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	769 063 452 931 43 096 273 036
Cost of resales         \$1,000.           Cost of fuels         \$1,000.           Cost of purchased electricity         \$1,000.           Cost of contract work         \$1,000.	162 841 22 204 51 346 23 154		X X
		Capital expenditures for machinery and equipment (new	x x
Quantity of electricity purchased for heat and power	949 088 D	Total retirements <sup>2</sup> \$1,000 Gross book value of total assets at end of year\$1,000	X X
Total value of shipments\$1,000 Primary products value of shipments\$1,000	7 684 326 X	Total depreciation during year <sup>2</sup> \$1,000         Total rental payments <sup>2</sup> \$1,000	x x
Secondary products value of shipments	X X X	Buildings and other structures rental payments <sup>2</sup>	X X
Contract receipts \$1,000 Other miscellaneous receipts \$1,000	X	Cost of purchased services for the repair of buildings and other structures <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup>	X X
Primary products specialization ratio	X X X	equipment <sup>3</sup> \$1,000. Response coverage ratio <sup>4</sup> . Cost of purchased communications services <sup>3</sup>	X X X
Value of primary products shipments made in other industries\$1,000	х	Response coverage ratio <sup>4</sup> percent.           Cost of purchased legal services <sup>3</sup> \$1,000.           Response coverage ratio <sup>4</sup> percent.	X X X X X X X X
Coverage ratio percent	х	Cost of purchased accounting and bookkeeping services <sup>3</sup>	х
Value added \$1,000	4 706 764	Response coverage ratio <sup>4</sup>	x
Total inventories, beginning of year       \$1,000         Finished goods inventories, beginning of year       \$1,000         Work-in-process inventories, beginning of year       \$1,000	674 890 374 859 39 983	Response coverage ratio <sup>4</sup> percent Cost of purchased refuse removal (including hazardous waste)	x x
Materials and supplies inventories, beginning of year	260 048	Response coverage ratio <sup>4</sup> percent.	â

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

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

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

. ,	,						,					
		All establishments		All employees		Production workers						
Employment size class	E1	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
311330, CONFECTIONERY MFG FROM PURCHASED CHOCOLATE												
All establishments	-	861	195	32 871	853 160	26 670	52 257	603 027	4 815 479	3 126 892	7 879 752	272 269
Establishments with 1 to 4 employees Establishments with 5 to 9	5	368	_	736	11 595	623	934	8 687	36 870	28 079	68 754	2 400
employees Establishments with 10 to 19	4	164	-	1 114	16 602	934	1 266	11 625	41 960	50 008	95 533	3 188
employees Establishments with 20 to 49	6	134	-	1 806	27 522	1 491	1 956	19 572	69 780	55 209	131 951	4 935
employees Establishments with 50 to 99	2	96	96	2 830	52 318	2 166	3 233	31 043	178 606	138 980	320 055	9 153
employees Establishments with 100 to 249	1	32	32	2 178	49 829	1 548	2 774	29 052	121 276	108 685	229 160	7 387
employees Establishments with 250 to 499	-	30	30	4 733	112 585	3 506	6 422	68 160	452 659	327 940	775 971	19 376
employees Establishments with 500 to 999	1	20	20	7 602	195 017	6 281	14 392	145 442	823 684	837 914	1 637 910	60 025
employees	-	15	15	D	D	D	D	D	D	D	D	D
Establishments with 1,000 to 2,499 employees Establishments with 2,500 employees	-	2	2	D	D	D	D	D	D	D	D	D
or more	-	-	-	-	-	-		-		-		-
Administrative records <sup>2</sup>	9	176	-	1 138	15 743	957	960	11 156	50 511	43 398	104 897	3 458

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

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data 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.

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

### 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]

[. or mouring													
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)	by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	expendi- tures (\$1,000)		
311330	Confectionery mfg from purchased chocolate	861	32 871	853 160	26 670	52 257	603 027	4 815 479	3 126 892	7 879 752	272 269		
3113301	Chocolate and chocolate-type confectionery products made from purchased chocolate and packaged												
3113302	for shipment (not retailed at manufacturing establishments) Retail chocolate and chocolate-type confectionery products made from	170	27 322	766 300	22 143	46 151	544 327	4 582 765	2 936 456	7 438 675	256 625		
	purchased chocolate	434	3 417	48 511	2 756	3 934	32 421	108 004	82 376	194 017	7 313		

#### Table 6a. Products Statistics: 1997 and 1992

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

			19	997		1992				
NAICS	Product	Number of companies		Product	shipments	Number of companies		Product	shipments	
code		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)	
311330	Confectionery products made from purchased chocolate	N	x	x	7 027 945	N	x	x	N	
3113301	Chocolate and chocolate-type confectionery products made from purchased chocolate and packaged for shipment (not retailed at manufacturing establishment) @	N	x	x	6 653 316	N	x	x	5 167 290	
31133010 3113301000	Chocolate and chocolate-type confectionery products made from purchased chocolate and packaged for shipment (not retailed at manufacturing establishment). Chocolate and chocolate-type	N	x	x	6 653 316	N	x	x	N	
	confectionery products made from purchased chocolate and packaged for shipment (not retailed at manufacturing establishment) \$	206	x	x	6 653 316	175	x	x	5 167 290	
3113302	Chocolate and chocolate-type confectionery products made from purchased chocolate and retailed at same location	N	x	x	149 559	N	х	x	N	
31133020	Chocolate and chocolate-type confectionery products made from purchased chocolate and retailed at same location	N	х	x	149 559	N	x	x	N	
0110002000	confectionery products made from purchased chocolate and retailed at same location	311	x	x	149 559	N	x	x	N	
311330W	Chocolate and chocolate-type confectionery products made from purchased chocolate (packaged for shipment or retailed at same establishment), nsk, total	N	x	x	225 070	N	x	x	N	
311330WY	Chocolate and chocolate-type confectionery products made from purchased chocolate (packaged for shipment or retailed at same establishment), nsk, total	N	x	x	225 070	N	x	x	Ν	
311330WYWW	Chocolate and chocolate-type confectionery products made from purchased chocolate (packaged for shipment or retailed at same establishment), nsk, for		^	^	223 070	N	^	^	N	
311330WYWY	establishment, new, for nonadministrative-record establishments. Chocolate and chocolate-type confectionery products made from purchased chocolate (packaged for shipment or retailed at same	N	x	x	137 440	N	х	×	N	
	establishment), nsk, for administrative- record establishments	N	х	x	87 630	N	х	x	N	

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

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

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

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

NAICS product class	Product class and geographic area	Value of product shipments (\$1,000)			
code		1997	1992		
3113301	CHOCOLATE AND CHOCOLATE-TYPE CONFECTIONERY PRODUCTS MADE FROM PURCHASED CHOCOLATE AND PACKAGED FOR SHIPMENT (NOT RETAILED AT MANUFACTURING ESTABLISHMENT) @				
	United States	6 653 316	5 167 290		
	California Florida Hawaii Illinois Maryland	336 567 2 494 69 889 1 361 770 6 054	253 772 N 73 808 1 342 938 2 470		
	Massachusetts Michigan Minnesota Missouri. New York	131 881 27 843 32 292 64 457 112 011	81 471 N 32 304 12 800 75 738		

See footnotes at end of table.

#### MANUFACTURING-INDUSTRY SERIES

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

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

NAICS product class	Product class and geographic area	Value of product shipments (\$1,000)				
code		1997	1992			
3113301	CHOCOLATE AND CHOCOLATE-TYPE CONFECTIONERY PRODUCTS MADE FROM PURCHASED CHOCOLATE AND PACKAGED FOR SHIPMENT (NOT RETAILED AT MANUFACTURING ESTABLISHMENT) @-Con.					
	Ohio . Pennsylvania	48 745 1 456 926 19 409 37 922 65 162	58 388 1 065 184 19 248 N 55 217			
3113302	CHOCOLATE AND CHOCOLATE-TYPE CONFECTIONERY PRODUCTS MADE FROM PURCHASED CHOCOLATE AND RETAILED AT SAME LOCATION					
	United States	149 559	N			
	California. Colorado Florida Illinois Indiana	19 400 2 535 3 619 3 240 5 695	N N N N N			
	Maine. Massachusetts. Michigan Missouri. New Hampshire	3 405 9 985 13 932 4 172 2 782	N N N N N			
	New Jersey New York Ohio Pennsylvania South Carolina	8 140 4 201 5 407 6 906 2 732	N N N N N			
	Tennessee	6 952 10 914 3 595 8 914	N N N			

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

### 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	1992		
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)	
311330	CONFECTIONERY MFG FROM PURCHASED CHOCOLATE					
11100003 31191101 11100029 00190045 31150000	Nuts, in shell (including peanuts)       mil lb.         Nutmeats, including peanuts, processed       mil lb.         Nutmeats, raw       mil lb.         Fresh and dried fruits       mil lb.         Milk and milk products       mil lb.	D 158.3 42.1 8.9 X	D 165 851 40 436 12 116 293 549	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	N N N N	
31122103 31122117 31122119	High fructose corn syrup (HFCS)(in terms of solids)mil lb Crystalline fructose (dry fructose)mil lb Dextrose and corn syrup, including corn syrup solids (in terms of dry	41.1 1.1	6 781 474	N N	N N	
32510053 31131003	weight)	402.0 1.6 739.5	53 949 1 455 318 574	N N N N N N N N N N N N N N N N N N N	N N N	
31100021 31132003 31132005 11130007 31132007	Fats and oils, including shortening       mil lb.         Chocolate coatings       1,000 s tons.         Unsweetened chocolate (chocolate liquor)       1,000 s tons.         Cocco beans       1,000 s tons.         Cocco a perssed cake and powder       1,000 s tons.	59.5 277.6 88.6 D 920.1	32 171 335 550 138 566 D 14 845	2	N N N N	
31132009 31134003 32510063 001900A1 33299901	Cocoa buttermil lb Chewing gum base including chicle Essential oils and flavors, synthetic. Packaging paper and plastics film, coated and laminated. Aluminum foil packaging products, converted or rolls and sheets.	D X X X X	D - 19 754 315 796 23 826	N X X X X	N N N N	
32221001 32610029 32721301 33243101 00970099 00971000	Paperboard containers, boxes, and corrugated paperboard Plastics containers	X X X X X X	191 175 18 481 530 9 281 217 329 298 479	× × × × ×	N N N N 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: <sup>p</sup> 10 to 19 percent estimated; <sup>q</sup> 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

#### MANUFACTURING-INDUSTRY SERIES

## Appendix A. Explanation of Terms

#### **BEGINNING- AND END-OF-YEAR INVENTORIES**

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

#### **Inventory Data by Stage of Fabrication**

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

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

#### **COST OF MATERIALS**

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

Included in this item are:

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

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

#### **Specific Materials Consumed**

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

# Duplication in Cost of Materials and Value of Shipment

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

#### 1997 ECONOMIC CENSUS

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

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

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

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

#### **COST OF PURCHASED SERVICES**

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

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

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

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit). Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

### **Response Coverage Ratio**

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

### **DEPRECIATION CHARGES FOR FIXED ASSETS**

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

#### **EMPLOYEES**

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

#### **Production Workers**

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

#### All Other Employees

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

#### **FRINGE BENEFITS**

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

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

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

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

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

#### NUMBER OF ESTABLISHMENTS AND COMPANIES

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

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

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

#### PAYROLL

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

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

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

#### **PRODUCT CODES AND CLASSES OF PRODUCTS**

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

#### 1997 ECONOMIC CENSUS

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

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

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

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

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

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

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

#### PRIMARY PRODUCT CLASS CODE

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

#### **PRODUCTION-WORKER HOURS**

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

## QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER

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

#### **RENTAL PAYMENTS**

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

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

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

#### **RETIREMENTS OF DEPRECIABLE ASSETS**

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

#### TOTAL CAPITAL EXPENDITURES (NEW AND USED)

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

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

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

#### VALUE ADDED

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

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

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

#### VALUE OF SHIPMENTS

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

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

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

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

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

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

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

# Duplication in Cost of Materials and Value of Shipment

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

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

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

#### **Specialization and Coverage Ratios**

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

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

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

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

## Appendix B. NAICS Codes, Titles, and Descriptions

#### 311330 CONFECTIONERY MANUFACTURING FROM PURCHASED CHOCOLATE

This U.S. industry comprises establishments primarily engaged in manufacturing chocolate confectioneries from chocolate produced elsewhere. Included in this industry are establishments primarily engaged in retailing chocolate confectionery products not for immediate consumption made on the premises from chocolate made elsewhere.

The data published with NAICS code 311330 include the following SIC industries:

- 2064 Candy and other confectionery products and chewing gum (pt)
- 5441 Candy, nut, and confectionery stores (pt)

This definition comes from the 1997 NAICS Mmanual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311330 do not include establishments primarily engaged in the manufacture of chocolate products made from purchased chocolate. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### 3113301 Chocolate and Chocolate-Type Confectionery Retail - Manufacturer

Establishments primarily engaged in the manufacture of consumer-type chocolate and chocolate-type confectionery products not for immediate consumption made on the premises from chocolate produced elsewhere.

#### 3113302 Chocolate and Chocolate-Type Confectionery - Manufacturer

Establishments primarily engaged in the manufacture of consumer-type chocolate and chocolate-type confectionery products from chocolate produced elsewhere.

## Appendix C. Coverage and Methodology

#### MAIL/NONMAIL UNIVERSE

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

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

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

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

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

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

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

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

2. Establishments sent a report form.

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

a. ASM sample establishments.

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

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

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

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

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

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

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

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

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

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

#### INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

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

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

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

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

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

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

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

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments. Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry's output should be considered.

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

#### **ESTABLISHMENT BASIS OF REPORTING**

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

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

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

#### DESCRIPTION OF THE ASM SURVEY SAMPLE

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

#### MANUFACTURING

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

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

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

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

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

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

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

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

# DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

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

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

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

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

#### **QUALIFICATIONS OF THE ASM DATA**

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

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

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

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

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

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

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

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

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

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

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

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

## DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

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

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

#### MANUFACTURING

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

## DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

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

# VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

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

## Appendix D. Geographic Notes

Not applicable for this report.

# Appendix E. Metropolitan Areas

Not applicable for this report.

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

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

NAICS product code	Footnote
@3113301	For additional detail, see Current Industrial Report MA311D, Confectionery.
\$ 3113301000	This product code is primary to more than one industry. For a list of product codes that are primary to more than one industry, see "1997 Economic Census, Numerical List of Manufactured and Mineral Products," Appendix D.

### Part 2. Materials Consumed by Kind (Table 7)

Not applicable.

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

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3111111	20473	20473 2047321	3112111561	2041117 2041121		3112217	20463 2046353	
3111111121	2047323	2047323	3112111681	2041123	2041123	3112217121	2046354	2046354
3111111231		2047326	3112111791	2041126	2041126	3112217131	2046356	
3111111341	2047338	2047338 2047300	31121117A1	2041129 2041128	2041129 2041128	3112217141 3112217YWV	2046359 2046300	
			31121118C1	2041131	2041131			
3111114		20474 2047441		2041151		311221A 311221A111	20464	
3111114221	2047443	2047443	31121118E1 31121118F1			311221A221	2046465	2046465
3111114231 3111114341	2047445 2047454	2047445 2047454	3112111YWV	2041100	2041100	311221A231	2046472 2046475	2046472 2046475
3111114351	2047457	2047454 2047457	3112114	20412	20412	311221A241 311221AYWV	2046400	2046400
3111114YWV	2047400	2047400	3112114111			311221W	20460	20460
311111W 311111WYWW	20470	20470	3112114121	2041219 2041200	2041219 2041200	311221WYWW	2046000	2046000
311111WYWW 311111WYWY	2047000 2047002	2047000 2047002	3112117		20413	311221WYWY	2046002	2046002
			3112117111	2041311	2041311	3112221	20751	20751
3111191 3111191111		20481 2048111	3112117121	2041315	2041315	3112221111	2075113	2075113 2075115
3111191121	2048115	2048115	3112117131 3112117141	2041321 2041323	2041321 2041323	3112221231	2075121	2075121
3111191231 3111191341		2048116 2048118	3112117151	2041365	2041365	3112221241	2075131 2075100	2075131
3111191351	2048121	2048121	3112117161	2041393 2041395	2041393 2041395			
3111191361	2048122	2048122	3112117181	2041397	2041397	3112224	20752 pt 2075211	
3111191371 3111191381	2048123 2048124	2048123 2048124	3112117YWV	2041300	2041300	3112224221	2075231	2075231
3111191391	2048131	2048131	311211A			3112224231	2075251 2075261	2075251 2075261
31111913A1 31111913B1		2048132 2048133	311211A111	2041511	2041511 2041513	3112224241 3112224261 3112224YWV	2075297	2075297
31111913C1	2048134	2048134	311211A131	2041515	2041515	3112224YWV	2075297 2075200 pt	2075200 pt
3111191YWV	2048100	2048100	311211A141	2041521	2041521 2041517	311222W	20750 pt	20750 pt
3111194	20482	20482	311211A151 pt	2041530 pt 2041530 pt	2041517 2041519	311222WYWW 311222WYWY	2075000 pt 2075002 pt	2075000 pt 2075002 pt
3111194100			311211A151 pt	2041530 pt	2041525		•	•
3111197	20483	20483		2041590 pt 2041590 pt		3112231	20741 2074100	
3111197111	2048301 2048302	2048301 2048302	311211A161 pt	2041590 pt	2041586			
3111197121 3111197YWV	2048300	2048300	311211A161 pt	2041590 pt	2041588	3112234	20742	
311119A			311211A161 pt	2041590 pt		3112237	20743	20743
311119A100	2048400	2048400		2041596 pt 2041596 pt		3112237100	2074300	
311119D			311211A171 pt	2041596 pt	2041595	311223A	20744 pt	20744 pt
311119D111 311119D121			311211AYWV	2041500		311223A111	2074414	2074414
311119DYWV	2048500		311211D pt	20343 pt	20343 pt	311223A221	2074451	2074451 2074498
311119G	20486	20486	311211D pt			311223AYWV	2074498 2074400 pt	2074400 pt
311119G100	2048600	2048600	311211D111 pt	2034338 2041613	2034339 pt 2041613	311223D	20761	20761
311119J	20487	20487	311211D121	2041627	2041627	311223D111	2076113	2076113
311119J111	2048705		311211DYWV pt 311211DYWV pt	2034300 pt	2034300 pt	311223D121	2076133	2076133 2076100
311119J121 311119JYWV	2048706	2048706 2048700	311211DY VV pt	2041600	2041600	311223G	20762	
311119M			311211W pt	20340 pt	20340 pt	311223G111	2076223	2076223
311119M111			311211W pt	20410	20410	311223G121	2076252	2076252
311119M121			311211WYWW pt			311223G131 311223G141	2076257 2076262	2076257 2076262
311119M131 311119M141	2048813 2048816	2048813 2048816	311211WYWW pt	2041000 2034002 pt	2041000 2034002 pt	311223G151	2076263	2076263
311119M151	2048821	2048821	311211WYWY pt	2041002	2041002	311223G161 311223G171	2076264 2076265	2076264 2076265
311119M161 311119M171		2048823 2048825	3112120	20440	20440	311223G181	2076268	2076268
311119M181	2048831	2048831	3112120111	2044011	2044011	311223G191 311223GYWV	2076273 2076200	2076273 2076200
311119M191 311119MYWV	2048833 2048800	2048833 2048800	3112120221	2044015 2044017	2044015 2044017			
			3112120441	2044021	2044021	311223J 311223J111	20763 pt 2076311	20763 pt 2076311
311119P	20489 pt 2048911	20489 pt 2048911	3112120451	2044035 2044051	2044035 2044051	311223J121	2076351	2076351
311119P121	2048922	2048922	3112120471	2044098	2044098	311223J131	2076361 2076397	2076361
311119P131 311119P141	2048935	2048935 2048939	3112120481 3112120YWW	2044093 2044000		311223JYWV	2076300 pt	2076300 pt
311119P151	2048943	2048941 pt	3112120YWY	2044000	2044000 2044002	311223W pt	20740 pt	20740 pt
311119PYWV	2048900 pt	2048900 pt	3112130		20830		20760 pt	
311119T	2048A	2048A	3112130100	2083000 pt	2083000 pt	311223W pt 311223WYWW pt	2074000 pt	2074000 pt
311119T111	2048A01	2048A01	3112130YWW	2083000 pt	2083000 pt	311223WYWW pt	2076000 pt	2076000 pt
311119T121 311119T131	2048A05	2048A03 2048A05	3112130YWY		2083002	311223WYWY pt 311223WYWY pt	2074002 pt 2076002 pt	
311119T141	2048A07	2048A07	3112211			3112251 pt		
311119T151 311119T161	2048A09 2048A11	2048A09 2048A11		2046103 2046104			•	
311119T171	2048A12	2048A12	3112211131 pt	2046114 pt	2046113	3112251 pt	•	·
311119T181 311119TYWV	2048A19 2048A00	2048A19 2048A00	3112211131 pt	2046114 pt 2046118		3112251 pt	20763 pt	20763 pt
			3112211251	2046123	2046123	3112251 pt	20773 pt	20773 pt
311119W	20480 pt	20480 pt	3112211261			3112251 pt	20791	20791
311119WYWW 311119WYWY			3112211371 3112211YWV	2046129 2046100	2046129 2046100	3112251111	2079113	2079113
	•	•				3112251221 3112251331	2079115	2079115
3112111 3112111111	20411 2041105	20411 2041105	3112214111	20462 2046211	2046211	3112251441	2079151	2079151
3112111221	2041107	2041107	3112214221	2046213	2046213	3112251551	2079152	2079152
3112111331 3112111441	2041111 2041113		3112214331 pt	2046218 pt 2046218 pt	2046215 2046217	3112251561	2079153 2079154	
3112111551	2041115	2041115	3112214YWV	2046200	2046200	3112251581	2079159	2079159

#### MANUFACTURING-INDUSTRY SERIES

#### APPENDIX G G-1

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
31122515C1 31122515D1 3112251701 3112251706	2079183 2079185 2079198 2077313 2074499 2075299	2079171 2079183 2079185 2079198 2077311 pt 2074499 2075299	3113207 3113207111 3113207221 3113207231 3113207231 3113207251 3113207251 3113207251 3113207360	20669	2066911 2066971 2066975 2066963 2066981	3114121 3114121111 3114121221 3114121331 3114121341 3114121451 3114121561	2038213 2038215 2038219 2038221 2038223	20382 2038211 2038213 2038215 2038219 2038221 2038223
3112251711 3112251721 3112251731 3112251741 3112251751 31122517WV pt	2076394 2076395 2076396 2076398 2074400 pt	2076391 2076394 2076395 2076396 2076398 2076398 2074400 pt	3113207371 3113207381 3113207391 3113207YWV 3113207YWV 311320W 311320W	2066992 2066993 2066995 2066900 20660 20660	2066993 2066995 2066900 20660 2066000	3114121671 3114121781 3114121791 3114121791 31141217A1 31141217A1 31141217B1 31141217C1	2038228 2038231 2038235 2038237 2038238	2038240 2038228 2038231 2038235 2038237 2038237 2038238
3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112251YWV pt 3112254	2076300 pt 2077300 pt 2079100 20792	2075200 pt 2076300 pt 2077300 pt 2079100 20792 2079200	311320WYWY 3113301 3113301000 3113302 3113302	54410 pt	20642 2064200 54410 pt	31141217D1           31141217E1           31141217F1           31141217F1           31141217F1           31141217F1           31141217F1           31141217F1	2038247 2038250 pt 2038250 pt 2038250 pt	2038239 2038247 2038243 2038245 2038245 2038249 2038200
311225W pt 311225W pt		20750 pt 20760 pt	311330W pt 311330W pt 311330WYWW pt 311330WYWW pt	20640 pt 54410 pt 2064000 pt 5441000 pt	20640 pt 54410 pt 2064000 pt 5441000 pt	3114124 3114124111 3114124221 3114124231 3114124441 31141244YWV	2038451 2038459 2038463 2038469	20384 2038451 2038459 2038463 2038469 2038409
311225W pt	20790	20790	311330WYWY pt 311330WYWY pt 3113401 3113401000 3113402	5441002 pt 20643 2064300 54410 pt	5441000 pt 20643 2064300 54410 pt	311412W 311412WYWW 311412WYWY 311412WYWY 3114211 3114211	2038002 20331 2033112	20380 2038000 2038002 20331 2033112
311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWW pt 311225WYWV pt 311225WYWY pt 311225WYWY pt 311225WYWY pt 311225WYWY pt 311225WYWY pt	2074002 pt 2075002 pt 2075002 pt 2076002 pt 2077002 pt 2079002	2074002 pt 2075002 pt 2075002 pt 2076002 pt 2077002 pt 2079002 20431	3113402000 3113404 3113404110 3113404320 3113404530 3113404YWV	5441015 20648 2064811 2064814 2064815 2064800	5441000 pt 20648 2064811 2064814 2064815	3114211121 3114211131 3114211131 3114211141 3114211161 3114211161 3114211171	2033113 2033115 2033122 2033124 2033124 2033128 2033132	2033113 2033115 2033122 2033124 2033128 2033132
3112301 3112301111 3112301121 3112301231 3112301241 3112301351 3112301361	2043101 2043103 2043105 2043107 2043109 2043111	2043101 2043103 2043105 2043107 2043109 2043111	3113407 pt 3113407 pt 3113407221 3113407231	20649 2099G pt 2064976 2099G95	20649 2099G pt 2064976 2099G98 pt	3114211191 31142111A1 31142111B1 31142111C1 31142111D1	2033136 2033138 2033141 2033157 2033159	2033136 2033138 2033141 2033157 2033159
3112301471 3112301481 3112301591 31123015A1 3112301YWV 3112304	2043113 2043116 2043118 2043118 2043119 2043100 20432 pt	2043113 2043116 2043118 2043119 2043100 20432 pt	3113407241 3113407YWV pt 3113407YWV pt 311340W pt 311340W pt	2064921 2064900 2099G00 pt 20640 pt 20940 pt	2064900 2099G00 pt 20640 pt	31142111E1 31142111F1 31142111F1 31142111G1 31142111H1 3114211YWV 3114214	2033163 2033165 2033169 2033100 20332	2033161 2033163 2033165 2033169 2033100 20332
3112304111 3112304121 3112304131 3112304141 3112304151 3112304YWV 311230W	2043203 2043205 2043207 2043213 2043200 pt	2043201 2043203 2043205 2043207 2043207 2043209 pt 2043200 pt 20430 pt	311340W pt 311340WYWW pt 311340WYWW pt 311340WYWW pt 311340WYWY pt 311340WYWY pt 311340WYWY pt	54410 pt 2064000 pt 2099000 pt 5441000 pt 2099002 pt 5441002 pt	2064000 pt 2099000 pt 5441000 pt 2064002 pt 2099002 pt	3114214111 3114214121 3114214131 3114214141 3114214141 3114214151 3114214161 3114214181	2033205 2033215 2033235 2033237 2033239 2033253	2033205 2033215 2033235
3113110 3113110111 3113110221 3113110231	2043002 pt 20610 2061011 2061065 2061085	2043000 pt 2043002 pt 20610 2061011 2061065 2061085	3114111 311411111 3114111111 3114111121 3114111131 3114111141 3114111141	20371 2037135 2037141 2037155 2037155 2037157	20371 2037135 2037141 2037155 2037157	3114214191 3114214191 31142141A1 31142141B1 31142141C1 31142141D1 31142141D1	2033274 2033275 2033276 2033291 2033293	2033274 2033275 2033276 2033291 2033293
3113110YWY 3113120 3113120111 3113120221 3113120331	2061000 2061002 20620 2062009 2062012 2062014	2061002 20620 2062009 2062012 2062014	3114111261 3114111371 3114111481 3114111481 3114111491 31141115A1 31141116B1	2037162 2037165 2037166 2037168 2037169 2037170	2037162 2037165 2037166 2037168 2037169	31142141F1 31142141G1 31142141H1 31142141H1 3114214YWV 3114217 3114217	2033295 2033297 2033298 2033200 20333	2033295 2033297 2033298 2033200 20333 2033315
3113120541 3113120551 3113120561 3113120571 3113120581 3113120581 3113120581 3113120581 3113120581	2062045 2062053 2062056 2062075	2062015 2062031 2062035 2062041 2062045 2062053 2062056 2062075	31141116C1 31141116D1 31141116E1 31141116F1 31141116F1 31141116H1 31141116H1 31141116K1	2037172 2037174 2037174 2037180 2037183 2037185 2037185 2037186 2037187 2037187	2037172 2037174 2037180 2037183 2037185 2037186 2037186 2037187	3114217121           3114217YWV           311421A           311421A           311421A           311421A           311421A           311421A           311421A           311421A           311421A           311421A	2033321 2033300 20335 2033515 2033598	2033321 2033300 20335 2033515 2033598 2033500
3113120YWW 3113120YWY 3113130 3113130111 3113130221 3113130331 3113130441	2062002	2062000 2062002 20630 2063009 2063012 2063013 2063015	31141116L1 3114111YWV 3114114 3114114 3114114121 3114114131	2037197 2037100 20372 2037211 2037213 2037213	2037197 2037100 20372 2037211 2037213 2037221	311421D 311421D111 311421D221 311421D231 311421D241 311421D251 311421D251	2033632 2033614 2033615 2033622 2033623 2033651	2033614 2033615 2033622 2033623 2033651
3113130551 3113130561 3113130671 pt 3113130671 pt 3113130781 3113130791 31131308A1	2063033 2063035 2063053 pt 2063053 pt 2063076 2063084 2063084	2063033 2063035 2063055 2063055 2063076 2063082 2063084 2063091	3114114141         3114114151         3114114151         3114114171         3114114171         3114114171         3114114181         3114114191         31141142A1	2037225 2037231 2037233 2037235 2037241 2037241 2037242 2037245	2037225 2037231 2037233 2037235 2037241 2037242	311421D271 311421D281 311421D291 311421D3A1 311421D3A1 311421D3C1 311421D3C1 311421DYWV	2033655 2033667 2033691 2033658 2033658 2033659 2033660 2033660	2033655 2033667 2033691 2033631 pt 2033631 pt 2033631 pt 2033631 pt 2033630 pt
31131309B1 3113130YWW 3113130YWY 3113201 3113201111 3113201221 3113201231	2063000 2063002 20661 2066122 2066112 2066132	2063000 2063002 20661 2066122 2066112 2066132	31141143B1 31141144C1 31141145D1 31141145E1 31141146F1 31141146F1 31141146H1	2037248 2037249 2037253 2037255 2037261 2037263 2037269	2037253 2037255 2037261 2037263 2037269	311421G 311421G111 311421G121 311421G131 311421G131 311421G141 311421G151 311421G161	2033812 2033813 2033821 2033825 2033828	20338 2033811 2033812 2033813 pt 2033821 2033825 2033813 pt
3113201341         3113201YWV         3113204         3113204000	2066152 2066100 20662	2066152 2066100 20662 2066200	3114114YWV 311411W 311411WYWW 311411WYWW	2037200 20370 2037000 2037002	20370 2037000	311421G171 311421G181 311421G191 311421G191 311421G1A1 311421GYWV	2033841 2033851 2033861	2033831 2033841 2033851 2033861 2033800

G-2 APPENDIX G

MANUFACTURING-INDUSTRY SERIES

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
311421J 311421J111 311421J221 311421J231 311421J241 311421J251 311421J261	2033A31 2033A41 2033A78	2033A25 2033A11 2033A31 2033A41 2033A78	3115117 3115117111 3115117121 3115117131 3115117YWV 311511A	2026313 2026316 2026318 2026300	20263 2026313 2026316 2026318 2026300 20265	3115200 3115200111 3115200221 3115200331 3115200441 3115200451 3115200461		20240 2024014 2024015 2024016 2024021 2024022 2024023
311421J271 311421JYWV 311421M	2033A94 2033A00 2033B	2033A94 2033A00 2033B	311511A111 311511A121 311511AYWV	2026502 2026504 2026500	2026500 pt 2026500 pt 2026500 pt	3115200471 3115200481 3115200491 31152005A1	2024025 2024026 2024027 2024035	2024099 pt 2024099 pt 2024099 pt
311421M121 311421M131 311421MYWV	2033B12 2033B19 2033B21 2033B00	2033B19 2033B21 2033B00	311511D121 311511D131	20267 2026711 2026713 2026714 2026716	2026713 2026714	31152005D1	2024037 2024094 2024096 2024052	2024094 2024096
311421P141	2035211 2035213 2035215 2035219	20352 2035211 2035213 2035215 2035219	311511G	2026718 2026700 20268	2026718 2026700 20268	31152005G1 31152005H1 3115200YWW	2024054 2024071 2024098 2024000 2024002	2024071 2024099 pt 2024000
311421P171 311421P181 311421P191	2035231 2035233 2035235 2035239	2035221 2035231 2035233 2035235 2035235	311511G111 311511G121 311511G131 311511GYWV	2026815 2026819 2026800	2026815 2026819 2026800	3116111221	2011112 2011114 2011116	2011112 2011114 2011116
311421P1A1 311421P1B1 311421P1C1 311421P1C1 311421PYWV	2035275 2035298 2035200	2035271 2035275 2035298 2035200		2026002 20210	2026000 2026002 20210	3116111551 3116111661 3116111671	2011118 2011131 2011151 2011171 2011100	2011131 2011151 2011171
311421WYWW pt 311421WYWW pt 311421WYWY pt	20330 20350 pt 2033000 2035000 pt 2033002 2035002 pt	2033000 2035000 pt 2033002	3115120121 3115120131 3115120YWW 3115120YWY	2021013 2021015 2021021 2021000 2021002	2021015 2021021 2021000 2021002	3116114 3116114111 3116114121 3116114121 3116114131 3116114YWV	20112 2011212 2011217 2011261	20112 2011212 2011217 2011261
3114221 3114221100 3114224	20321 2032100 20322 2032200	20321 2032100 20322	3115131 3115131111 3115131121 3115131131 3115131141 3115131144	2022304 2022305	2022301 pt 2022302 pt	3116117121 3116117YWV	2011312 2011352 2011300	2011312 2011352 2011300
3114227 3114227111 3114227121 3114227131	20323 2032370 2032371 2032375	20323 2032370 2032371 2032375	3115134 3115134111 3115134221 3115134231	20224 2022411 2022413 2022423	20224 2022411 2022413 2022423	311611A111 311611A121	20114 2011412 2011417 2011451 2011400	2011412 2011417
3114227151 3114227161 3114227171 3114227181	2032376 2032379 2032382 2032384 2032386	2032379 2032382 2032384 2032386	3115134241 3115134251 3115134YWV 3115137	2022429           2022400           20225	2022429 2022400 20225	311611D 311611D111 311611D121 311611DYWV		2011517 2011500
3114227YWV 311422A 311422A111 pt 311422A111 pt	2032464 pt 2032464 pt	2032300 20324 pt 2032463 2032494	3115137111 3115137121 3115137YWV 311513A 311513A	2022521         2022500         20226	2022521 2022500 20220 pt	311611G111 311611G121 311611G131 311611G141	20116 2011612 2011622 2011631 2011635 2011641	2011612 2011622 2011631 2011635
311422A131 311422A136 311422A141 pt 311422A141 pt	2032491 2032493 2032471 2032498 pt 2032498 pt	2032493 2032499 pt 2032468 2032496	311513W 311513WYWW 311513WYWY	20220 2022000 2022002	20220 pt 2022000 pt 2022002	311611G161 311611G171 311611GYWV 311611J	2011652 2011661 2011600 20117	2011652 2011661 2011600 20117
311422A141 pt 311422AYWV 311422W	2032498 pt 2032498 pt 2032400 pt 20320 pt 2032000 pt	2032499 pt 2032400 pt 20320 pt	3115141221 3115141331 3115141441	20235 2023511 2023522 2023529 2023542 2023542 2023543	2023511 2023522 2023529 2023542	311611J121 311611J131 311611J141	2011711 2011717 2011721 2011735 2011791 2011700	2011717 2011721 2011735
311422WYWY 3114231 pt 3114231 pt	2032002 pt 20342 2099B pt	2032002 pt 20342 2099B pt	3115141661	2023545 2023546 2023548	2023545 2023547 pt 2023547 pt 2023549	311611M 311611M100 311611P	20118 2011800 20119	20118 2011800 20119
3114234	2099B17 2099B00 pt 20343 pt	20343 pt	3115141YWV 3115144 3115144111 3115144121	2023500 20236 2023612 2023616		311611P121 311611P131 311611P141	2011914 2011922 2011951 2011997 2011990	2011922 2011951 2011997
3114234121 3114234131 3114234141 3114234141	2034313 2034315 2034321 2034325 2034332 2034337	2034315 2034321 2034325 2034332	3115144131 3115144241 3115144351 3115144YWV	2023626 2023628 2023600	2023628 2023600	311611T pt 311611T111 311611T121	2011B 20489 pt 2011B15 2011B17	20489 pt 2011B15 2011B17
3114234181 3114234YWV 311423W pt	2034340 2034300 pt 20340 pt	2034339 pt 2034300 pt	3115147 3115147111 3115147121 3115147131 3115147YWV	2023712 2023717 2023719	2023719	311611T131 311611T141 311611T151 311611T161 311611T171	2011B45 2011B55 2011B59 2048940	2011B45 2011B55 2011B59 2048941 pt
311423WYWW pt 311423WYWY pt	20990 pt 2034000 pt 2099000 pt 2034002 pt 2099002 pt	2034000 pt 2099000 pt 2034002 pt	311514A 311514A111 311514A121 311514A131 311514A131	2023801 2023803 2023804	20238 2023801 2023803 2023819 pt 2023805	311611W pt	2011B00 2048900 pt 20110 20480 pt	2048900 pt 20110 20480 pt
311511111 3115111221 3115111231	20261 2026112 2026115 2026116 2026119	2026112 2026115 2026116	311514A251 311514A261 311514A271 311514A271	2023807 2023813 2023821	2023807 2023813 2023819 pt 2023800	311611WYWW pt 311611WYWY pt 311611WYWY pt	2011000 2048000 pt 2011002 2048002 pt 20136	2048000 pt 2011002 2048002 pt
3115111YWV 3115114 3115114111 3115114221	2026100 20262 2026212 2026223	2026100 20262 2026212 2026223	311514D 311514D111 311514D121 311514D121 311514D131 311514D141	2023921 2023923 2023925 2023928	20239 2023921 2023923 2023925 2023928	3116121 pt 3116121111 3116121121 3116121231	20137 pt 2013612 2013622 2013631	20137 pt 2013612 2013622 2013631
3115114331 3115114441 3115114451 3115114461 3115114461	2026225 2026232 2026243 2026245 2026252	2026225 2026232 2026243 2026245 2026252	311514D151 311514D161 311514DYWV 311514W	2023932 2023938 2023900 20230	2023932 2023938 2023900 20230	3116121341 3116121451 3116121561 3116121671 3116121781	2013635 2013641 2013652 2013661 2013741	2013635 2013641 2013652 2013661 2013741
3115114481 3115114YWV	2026263 2026200	2026263 2026200	311514WYWW 311514WYWY	2023000 2023002	2023000 2023002	3116121YWV pt 3116121YWV pt	2013600 2013700 pt	2013600 2013700 pt

### MANUFACTURING-INDUSTRY SERIES

## APPENDIX G G-3

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3116124 3116124111 3116124221 3116124331 3116124441 3116124451	2013711 2013717 2013721 2013735	2013711 2013717 2013721 2013735	3117110YWY pt 3117121 3117121111 3117121121 3117121121 3117121131	2091002 20922 2092201 2092202 2092203	20922 2092213 pt 2092213 pt	3118124 3118124111 3118124121 3118124231 3118124241 3118124251	2051230 2051231 2051243 2051244	20512 2051230 2051231 2051243 2051244 2051250
3116124YWV 3116127 3116127100 311612A pt	2013700 pt 20138 2013800	2013700 pt 20138 2013800	3117121141 3117121151 3117121161 3117121161 3117121171 3117121181 3117121191	2092204 2092207 2092208 2092209 2092210 2092211	2092213 pt 2092213 pt 2092213 pt 2092213 pt 2092213 pt 2092213 pt	3118124261 3118124271 3118124281 3118124291	2051251 2051260 2051261	2051251 2051260 2051261 2051270
311612A pt 311612A111 311612A221 311612A331 311612A441 311612A451	5147009 2013B11 2013B13 2013B17	5147000 pt 2013B11 2013B13 2013B17	31171211A1 31171211B1 31171211C1 31171211D1 31171211E1	2092212 2092215 2092217 2092218 2092219	2092213 pt 2092215 2092217 2092218 2092219	31181242B1 31181242C1 31181242D1 31181242E1 31181242F1 3118124YWV	2051290 2051291 2051249	
311612A461 311612AYWV pt 311612AYWV pt 311612W pt	2013B21 2013B00 5147000 pt 20130	2013B21 2013B00 5147000 pt 20130	31171211F1 31171211G1 31171211H1 31171211J1. 31171211J1. 31171211K1 31171211L1	2092223 2092224 2092225 2092226 2092227 2092228	2092223 2092224 2092225 2092226 2092227 2092228	3118127 3118127111 3118127121 3118127131 3118127YWV	20514 2051413	20514 2051413 2051415 2051415 2051419 2051400
311612W pt 311612WYWW pt 311612WYWW pt 311612WYWY pt 311612WYWY pt	2013000 5147000 pt 2013002 5147002	2013000 5147000 pt 2013002 5147002	31171211M1 3117121YWV 3117122 3117122111 311712221 3117122221	2092231 2092200 20923 2092311 2092313 2092215	2092313	311812A 311812A111 311812A121 311812AYWV 311812D pt	2051519 2051500	2051519
3116131 3116131111 3116131121 3116131YWV 3116134 pt	2077111 2077113 2077100 20772	2077111 2077113 2077100 20772	3117122331 3117122441 3117122451 3117122461 3117122461 3117122581	2092315 2092317 2092319 2092321 2092323 2092323 2092325	2092317 2092319 2092321 2092323 2092326 pt	311812D pt 311812D pt 311812D111 311812D131	20518 pt 20518 pt 2051813 2051845	20516 20517 2051313 2051700
3116134 pt 3116134111 3116134221 3116134231 3116134241 3116134251	2077211 2077212 2077237 2077298 2077346	2077211 2077212 2077237 2077298 2077346	3117122691 31171226A1 31171227B1 31171228C1 31171228D1 31171229E1	2092332	2092329 pt 2092326 pt 2092327 pt 2092329 pt	311812D151 311812D181 311812D191 311812DYWV 311812W pt	2051890 2051892 2051800 20510	2051398 pt 2051398 pt 2051300 20510
3116134261 3116134YWV pt 3116134YWV pt 311613W 311613W	2077312 2077200 2077300 pt 20770 pt 2077000 pt	2077200 2077300 pt 20770 pt 2077000 pt	3117122AF1 3117122AG1 3117122YWV 3117123 3117123	2092338 2092339 2092300 20925 2092521	2092327 pt 2092329 pt	311812W pt 311812WYWW pt 311812WYWW pt 311812WYWY pt 311812WYWY pt	20520 pt 2051000 2052000 pt 2051002 2052002 pt	20520 pt 2051000 2052000 pt 2051002 2052002 pt
311613WYWY 3116151 3116151111 3116151221 3116151331 3116151441	20151 2015133 2015134 2015136	20151 2015133 2015134 2015136	3117123121 3117123131 3117123141 3117123251 3117123261 3117123261	2092522 2092523 2092524 2092525 2092525 2092526 2092527	2092522 2092523 2092524 2092525 2092526 2092527	3118130 3118130111 3118130221 3118130331 3118130341 3118130351	2053011 2053020 2053017 2053040	20530 2053014 2053011 2053020 2053017 2053040
3116151551 3116151YWV 3116154 3116154111 3116154121	2015141 2015100 20152 2015221 2015223	2015141 2015100 20152 2015221 2015223	3117123281 3117123291 31171232A1 31171232B1 31171232C1	2092528 2092529 2092530 2092533 2092534	2092534	3118130361 3118130371 3118130391 3118130391 31181303V1 3118130YWW 3118130YWY 3118130YWY	2053032 2053055 2053060 2053000	2053025 pt 2053025 pt 2053050 pt 2053050 pt 2053000 2053000
3116154YWV 3116157 3116157111 3116157221 3116157331 3116157341 3116157YWV	20153 2015322 2015324 2015326 2015327	20153 2015322 2015324 2015326 2015327	31171232D1 31171232E1 3117123YWV 3117124 pt 3117124 pt 3117124 nt	2092535 2092536 2092500 20773 pt 20926 20926	2092500	3118211 3118211111 3118211221 3118211331 3118211341 3118211351 3118211391 3118211391 3118211YWV	2052125 2052135 2052123 2052123 2052133 2052159	20521 pt 2052125 2052135 2052133 2052133 2052151 pt 2052151 pt 2052198 pt
311615A 311615A111 311615A121 311615AYWV 311615D	20154 2015414 2015416	20154 2015414 2015416 2015400	3117124121 3117124131 3117124211 3117124221 3117124231 3117124311	2092613 2092698 2077363 2077367 2077372 2077314	2092613 2092698 2077361 pt 2077366 pt 2077379 pt 2077311 pt	3118211YWV 3118214 3118214111 311821421 3118214331 3118214341		2052100 pt 20522 2052213 2052217 2052215 2052216
311615D111 pt 311615D111 pt 311615D111 pt 311615D121 311615D131 311615D141	2015512 pt 2015512 pt 2015512 pt 2015531 2015532	2015511 2015513 2015515 2015531 2015532	3117124YWV pt 3117124YWV pt 311712W pt 311712W pt 311712W pt 311712WYWW pt	2077300 pt 2092600 20770 pt 20920 207700 pt	20920	3118214351 3118214351 3118214361 3118214371 3118214381 3118214391 3118214YWV	2052218 2052220 2052221 2052235 2052231 2052230	2052218 2052220 2052221 2052221 2052235 2052231 2052200
311615D151 311615D161 311615D171 311615DYWV 311615DYWV	2015534 2015539 2015548 2015500 20150 pt	2015534 2015539 2015548 2015500 20150 pt	311712WYWW pt 311712WYWW pt 311712WYWY pt 311712WYWY pt 3118110 3118110	2092000	2092000 2077002 pt	311821W 311821WYWW 311821WYWY 311821WYWY	20520 pt 2052000 pt 2052002 pt 20450	20520 pt 2052000 pt 2052002 pt 20450
311615WYWW 311615WYWY 3117110 pt 3117110 pt	2015002 pt	2015002 pt 20770 pt	3118110121 3118110131 3118110141 3118110151 3118110161 3118110161	5461013 5461015 5461017 5461019 5461021 5461090	5461000 pt 5461000 pt 5461000 pt 5461000 pt 5461000 pt 5461000 pt	3118220121 3118220211 3118220231 3118220241 pt 3118220241 pt 3118220241 pt	2045015 2045030 pt 2045030 pt 2045030 pt	2045013 2045011 2045015 2045017 2045017 2045025 2045025
3117110 pt 3117110111 3117110221 3117110331 3117110341 3117110351	2091012 2091013 2091014 2091015	2091012 2091013 2091014 2091015	3118110YWW 3118110YWY 3118121 pt 3118121 pt	5461000 5461002 20511 20521 pt	5461000 pt 5461000 pt 20511 20521 pt	3118220251 3118220261 pt 3118220261 pt 3118220261 pt 3118220261 pt 3118220261 pt	2045021 2045090 pt 2045090 pt 2045090 pt 2045090 pt 2045090 pt 2045090 pt	2045021 2045081 2045085 2045086 2045088 2045088 2045088
3117110461 3117110471 3117110481 3117110591 31171106A1	2077362 2077364 20977371 2091019 2091031	2077361 pt 2077366 pt 2077379 pt 2091019 2091031	3118121111         3118121121         3118121231         3118121231         3118121241         3118121351         3118121351         3118121361	2051121 2051122 2051127 2051129 2051131 2051133	2051121 2051122 2051127 2051129 2051131 2051133	3118220271 pt           3118220271 pt           3118220271 pt           3118220271 pt           3118220YWW           3118220YWW	2045096 pt 2045096 pt 2045096 pt 2045000 2045002	2045091 2045092 2045095 2045000 2045002
31171107B1 31171107C1 31171107D1 31171107E1 31171107E1 3117110YWW pt 3117110YWW pt 3117110YWW pt 3117110YWW pt 3117110YWY pt 311710YWY pt 3117110YWY pt 3117110YWY pt 3117110	2091071 2091082 2091089 2077000 pt 2077300 pt 2091000	2091071 2091082 2091089 2077000 pt 2077300 pt 2091000	3118121471 3118121481 3118121491 3118121491 3118121491 3118121491 3118121491 3118121491 3118121497 3118121497 3118121497 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 3118121977 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311812197 311	2051135 2051137 2052188 2052189 2051141 2051142 2051142 2051100	2051135 2051137 2052198 pt 2052198 pt 2051141 2051142 2051142	3118230 3118230111 3118230221 3118230331 3118230441 3118230451 3118230461 31182304WW	2098007 2098003 2098004 2098005 2098006	20980 2098001 2098000 pt 2098003 2098004 2098005 2098005 2098006 2098000 pt

### G-4 APPENDIX G

### MANUFACTURING-INDUSTRY SERIES

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3118230YWY	2098002	2098002	3119301	20872	20872	3119910 pt	20990 pt	20990 pt
3118300 pt	20990 pt	20990 pt	3119301111	2087215 2087221	2087215 2087221	3119910 pt 3119910111	20999 pt 2099921	20999 pt 2099921
3118300 pt 3118300100 3118300YWW pt 3118300YWW pt 3118300YWW pt	2099000 pt 2099900 pt 2099002 pt	2099000 pt 2099900 pt 2099002 pt	31193011900 3119304 3119304111 3119304121 3119304131 3119304141	2087200 20873 2087321 2087323 2087325 2087341	20873 2087321 2087323 2087325 2087341	3119910221 3119910331 3119910441 3119910551 3119910561 3119910671	2099931 2099935 2099945 2099953 2099955 2099958	2099931 2099935 2099945 2099953 2099955
3119111 3119111111 3119111121 3119111121 3119111131 3119111241	2068013 2068015 2068017	20680 pt 2068013 2068015 2068017 2068033	3119304151 3119304161 3119304YWV 3119307	2087343 2087345 2087300 20874 pt	2087343 2087345 2087300 20874 pt	3119910781 3119910YWW pt 3119910YWW pt 3119910YWY	2099959 2099000 pt 2099900 pt 2099002 pt	2099000 pt 2099900 pt
3119111251 3119111261 3119111371 3119111371 3119111381 3119111391 31191113A1 31191113A1 31191113A1	2068035 2068037 2068053 2068055 2068057 2068057 2068061	2068035 2068037 2068053 2068055 2068057 2068061 2068000 pt	3119307111 3119307121 3119307131 3119307141 3119307YWV 311930W 311930W	2087459 2087461 2087471 2087481 2087400 pt 20870 pt 2087000 pt	2087459 2087461 2087471 2087481 2087400 pt 20870 pt 2087000 pt	3119991 3119991111 3119991121 3119991131 3119991131 3119991141 3119991151 3119991YWV	20991 2099113 2099115 2099153 2099155 2099155 2099159 2099100	2099113 2099115 2099153 2099155 2099159
3119114121	2099F44	2099F46	311930WYWY 3119411 3119411111 3119411121	2087002 pt 20996 2099611 2099651	2087002 pt 20996 2099611 2099651	3119994 3119994111 3119994121 3119994YWV		2099325 2099327 2099300
311911W pt	20680 pt 20990 pt	20680 pt 20990 pt	3119411131 3119411YWV 3119414	2099657 2099600 20353	2099657 2099600 20353	3119997 3119997111 3119997121	20994 2099413 2099423	2099413 2099423
311911WYWW pt 311911WYWW pt 311911WYWY pt	2068000 pt 2099000 pt	2068000 pt 2099000 pt 2068002	3119414111 3119414221 3119414YWV	2035311 2035351 2035300	2035311 2035351 2035300	3119997131 3119997141 3119997YWV 311999A	2099434 2099455 2099400 2099A	2099455 2099400
3119191 3119191100 3119194	20961 2096100 20962	2096100	3119417 3119417111 3119417221 3119417331	2035411 2035423 2035429	2035423 2035429	311999A111 311999A121 311999A131 311999A141	2099A01 2099A02 2099A03 2099A04	2099A01 2099A02 2099A03 2099A04
3119194111 3119194221 3119194331	2096219 2096225 2096229	2096221 pt 2096221 pt 2096229	3119417441 3119417YWV 311941W pt	2035400	2035400	311999A151 311999A161 311999AYWV	2099A05 2099A06 2099A00	2099A06
	20521 pt	20521 pt	311941W pt 311941WYWW pt 311941WYWW pt	2099000 pt	2099000 pt	311999D 311999D131 311999D141	2099B pt 2099B11 2099B13	2099B11 2099B13
3119197221	20963 2052155 2096300 pt	2096300 pt	311941WYWY pt 311941WYWY pt 3119421 pt	2035002 pt 2099002 pt 2099E	2035002 pt 2099002 pt 2099E	311999D151 311999DYWV 311999G	2099B21 2099B00 pt 20159	2099B00 pt 20159
3119197YWV pt	2052100 pt 2096300 pt 20520 pt	2096300 pt	3119421 pt 3119421111 3119421121	28991 pt 2899121	28991 pt 2899100 pt 2099E31	311999G111 311999G121 311999G131 311999G141	2015911 2015913 2015915 2015917	2015913 2015915
311919WYWW pt	20960 2052000 pt 2096000	2096000	3119421131 3119421241 3119421351 3119421YWV pt	2099E33 2099E38 2099E39	2099E33 2099E38 2099E39 2099E00	311999G151 311999G161 311999G161 311999G171 311999G181	2015951 2015953 2015955 2015955 2015957	2015951 2015953 2015955
311919WYWY pt	2052002 pt 2096002	2052002 pt 2096002 20951	3119421YWV pt 3119424 pt	2899100 pt	2899100 pt 20871	311999GYWV 311999J	2015900 20874 pt	20874 pt
3119201211 3119201331	20951 2095111 2095115 2095121 2095100	2095111 2095115 2095121	3119424 pt 3119424111 3119424121 3119424131	2087111 2087115	20952 pt 2087111 2087115 2087153	311999J111 311999J121 311999JYWV 311999M pt	2087435 2087437 2087400 pt 20324 pt	2087437 2087400 pt
	20432 pt		3119424141 3119424YWV pt	2095231	2095200 pt 2087100 2095200 pt	311999M pt 311999M101 311999M101	2099G pt 2032495 2099G11	2099G pt 2032499 pt
3119204121 3119204YWV pt	20952 pt 2095211 2043211 2043200 pt 2095200 pt	2043209 pt 2043200 pt	3119427111	2099B pt 2099B01 2099B03 2099B07 2099B05	2099B pt 2099B01 2099B03 2099B07 2099B05	311999M121 311999M131 311999M141 311999M151 311999M151	2099G25 2099G41 2099G51 2099G85 2099G91	2099G25 2099G41 2099G51 2099G85 2099G91
3119207221 3119207231	2099D82 2099D83 2099D86	2099D83 2099D86	3119427251 3119427YWV 311942W pt	2099B09	2099B09 2099B00 pt 20870 pt	311999M171 311999MYWV pt 311999MYWV pt 311999W pt	2099G98 2032400 pt 2099G00 pt 20150 pt	
3119207YWV	2099D00	2099D00	311942W pt	20950 pt	20950 pt	311999W pt	20320 pt	•
	20430 pt		311942W pt	•	20990 pt	311999W pt	20870 pt	•
311920W pt 311920WYWW pt 311920WYWW pt 311920WYWW pt 311920WYWY pt 311920WYWY pt	20950 pt 20990 pt 2095000 pt 2099000 pt 2043002 pt 2099002 pt 2099002 pt	20990 pt 2043000 pt 2095000 pt 2099000 pt 2043002 pt 2095002 pt	311942WYWW pt	2087000 pt 2095000 pt 2899000 pt 2899000 pt 2087002 pt 2095002 pt	2095000 pt 2099000 pt 2899000 pt 2087002 pt 2095002 pt 2099002 pt	311999W pt 311999WYWW pt 311999WYWW pt 311999WYWW pt 311999WYWW pt 311999WYWY pt 311999WYWY pt 311999WYWY pt	20990 pt 2015000 pt 2032000 pt 2099000 pt 2015002 pt 2032002 pt 2087002 pt 2099002 pt	2015000 pt 2032000 pt 2087000 pt 2099000 pt 2015002 pt 2032002 pt 2087002 pt

EC97M-3113E