Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing

1997

Issued November 1999

EC97M-3152J

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.

Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing



Issued November 1999

EC97M-3152J

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	
A. B. D. E. 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	oloyees	Pr	oduction work	ers				Total capital
		Com- panies ¹	Com- panies ¹	estab- lish- ments ²	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)
315232	Women's & girls' cut & sew											
	blouse & shirt mfg	713	726	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
233120	Women's blouses & waists (pt)	N	650	22 390	463 645	16 424	28 548	257 415	1 365 883	2 054 405	3 361 424	25 791
236130	Girls' & children's dresses & blouses (pt)	N	76	3 848	89 898	2 836	4 566	44 400	299 395	335 839	630 119	5 496

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

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

Table 2. Industry Statistics for Selected States: 1997

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

		All 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)
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG												
United States	2	726	300	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
California Florida . New Jersey New York Pennsylvania	- 1 4	332 42 24 154 30	135 14 10 56 19	11 444 1 803 797 4 160 1 748	283 426 31 582 21 736 90 336 29 645	8 355 1 175 621 2 805 1 499	13 631 2 032 1 259 4 768 2 717	143 242 16 940 10 532 44 331 22 426	795 870 75 668 63 363 333 026 98 452	1 206 645 105 006 124 148 554 762 76 920	1 971 044 176 989 186 172 882 415 172 078	14 705 1 085 1 098 5 351 1 080
South Carolina	-	8 9 9	5 6 5	750 404 379	12 329 4 398 5 548	648 312 330	1 377 449 661	9 545 3 182 4 353	50 808 9 288 19 074	60 019 3 105 19 768	97 102 11 959 38 418	678 60 422

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

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

Table 3. Detailed Statistics by Industry: 1997

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

Item	Value	Item	Value
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG		315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG-Con.	
Companies ¹ number	713	3152321, Women's & girls' cut & sew blouse & shirt mfg-manufacturer-Con.	
All establishmentsnumber Establishments with 1 to 19 employeesnumber Establishments with 20 to 99 employeesnumber Establishments with 100 employees or morenumber.	726 426 242 58	Production workers, average for year number	16 452 16 482 16 771
	26 238	Production workers on May 12	16 398 16 157
All employees number. Total compensation ² \$1,000. Annual payroll. \$1,000. Total fringe benefits \$1,000.	637 148 553 543 83 605	Production-worker hours	28 503 241 374
Production workers, average for year number Production workers on March 12 number	19 260 19 280	Total cost of materials \$1,000 Cost of materials, parts, containers, etc., consumed \$1,000	1 249 336 832 417
Production workers on May 12	19 543 19 175 19 042	Cost of resales \$1,000. Cost of fuels \$1,000. Cost of purchased electricity \$1,000. Cost of contract work \$1,000.	78 144 4 758 10 014 324 003
Production-worker hours	33 114 301 815	Quantity of electricity purchased for heat and power	119 578
Total cost of materials\$1,000 Cost of materials, parts, containers, etc., consumed\$1,000			2 245 648
Cost of resales \$1,000. Cost of fuels \$1,000. Cost of purchased electricity \$1,000. Cost of contract work \$1,000.	190 188 5 396	Primary products value of shipments	X X
Cost of purchased electricity	12 081 654 206	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.	X X X X X X X
Quantity of electricity purchased for heat and power	141 309 _		
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.	3 991 543 2 620 781	Primary products specialization ratio	X X X
Secondary products value of shipments	1 105 932 264 830 264 644	Value of primary products shipments made in other industries	X
Value of resales	264 644	Coverage ratio percent	Х
	70	Value added\$1,000	1 037 985
Primary products specialization ratio	4 146 795 2 620 781 1 526 014	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.	300 957 134 166 66 574 100 217
Coverage ratio percent	63	Total inventories, end of year	338 549 164 360
Value added\$1,000	1 665 278	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	78 053 96 136
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	505 498 225 149 111 339 169 010	Gross book value of total assets at beginning of year\$1,000 Total capital expenditures (new and used)\$1,000	X X
Total inventories, end of year \$1,000 Finished goods inventories, end of year \$1,000	568 830 268 558	(new and used)	X
Work-in-process inventories, end of year		Capital expenditures for buildings and other structures \$1,000. Capital expenditures for machinery and equipment (new and used) \$1,000. Total retirements ² \$1,000. Gross book value of total assets at end of year \$1,000.	X X X
Gross book value of total assets at beginning of year	231 884 31 287	Total depreciation during year ² \$1,000	x x
Gross book value of total assets at beginning of year	7 058 24 229	Total rental payments ² \$1,000 Buildings and other structures rental payments ² \$1,000 Machinery and equipment rental payments ² \$1,000	x
Total retirements ²	8 822 254 349		X X
Total depreciation during year ² \$1,000	24 352	Cost of purchased services for the repair of machinery and equipment ³	x
Total rental payments ² \$1,000 Buildings and other structures rental payments ² \$1,000	43 354 26 945	Response coverage ratio ⁴ percent Cost of purchased communications services ³ \$1,000	
Machinery and equipment rental payments ² \$1,000 Cost of purchased services for the repair of buildings and other	16 409	Response coverage ratio ⁴ percent. Cost of purchased legal services ³ \$1,000. Response coverage ratio ⁴ percent.	X X X X X X X X X X X
structures ³ \$1,000. Response coverage ratio ⁴ percent . Cost of purchased services for the repair of machinery and	SS	Cost of purchased accounting and bookkeeping services ³	X X X
Cost of purchased services for the repair of machinery and equipment ³	S	Cost of purchased accounting and bookkeeping services ³ \$1,000. Response coverage ratio ⁴ percent. Cost of purchased advertising services ³ \$1,000. Response coverage ratio ⁴ percent.	x
equipment ³	S S S	Cost of purchased software and other data processing	X X
Response coverage ratio ⁴ percent. Cost of purchased legal services ³ \$1,000. Response coverage ratio ⁴ percent. Cost of purchased accounting and bookkeeping services ³ \$1,000.	S	Response coverage ratio ⁴ percent. Cost of purchased refuse removal (including hazardous waste)	
Cost of purchased accounting and bookkeeping services ³ \$1,000 Response coverage ratio ⁴	S	services ³ \$1,000 Response coverage ratio ⁴	X X
Cost of purchased advertising services ³	S	3152322, Women's & girls' cut & sew blouse & shirt mfg—jobber	
services ³	S	Companies ¹ number.	Ν
Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000. Response coverage ratio ⁴	S	All establishments	114 70 28
3152321, Women's & girls' cut & sew blouse &		Establishments with 100 employees or more number	16
shirt mfg—manufacturer Companies ¹ number	N	All employees number. Total compensation ² \$1,000. Annual payroll \$1,000. Total fringe benefits \$1,000.	4 824 164 984 143 317
All establishments	612	Total fringe benefits\$1,000 Production workers, average for yearnumber	21 667 2 808
Establishments with 10 to 9 employees	214 42	Production workers on March 12 number.	2 808 2 798 2 772
All employees number	21 414	Production workers on May 12	2 777 2 885
Total compensation ² \$1,000 Annual payroll \$1,000. Total fringe benefits		Production-worker hours	4 611 60 441
8 NAICS 315232		MANUFACTURING-INDUST	

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
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG-Con.		315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG-Con.	
3152322, Women's & girls' cut & sew blouse &		3152322, Women's & girls' cut & sew blouse & shirt mfg—jobber—Con.	
shirt mfg—jobber—Con.		Total inventories, end of year\$1,000 Finished goods inventories, end of year\$1,000	230 281 104 198
Total cost of materials	1 140 908 695 956	Work-in-process inventories, end of year \$1,000	53 856 72 227
Cost of resales \$1,000. Cost of fuels \$1,000. Cost of purchased electricity \$1,000.	112 044 638 2 067	Gross book value of total assets at beginning of year\$1,000 Total capital expenditures (new and used)\$1,000 Capital expenditures for buildings and other structures	X X
Cost of contract work\$1,000	330 203	(new and used)\$1,000 Capital expenditures for machinery and equipment (new	Х
Quantity of electricity purchased for heat and power	21 731	and used)\$1,000 Total retirements ² \$1,000 Gross book value of total assets at end of year\$1,000	X X X
Total value of shipments\$1,000	1 745 895	Total depreciation during year ² \$1,000	х
Primary products value of shipments	X X X X	Total rental payments ² \$1,000 Buildings and other structures rental payments ² \$1,000 Machinery and equipment rental payments ² \$1,000	X X X
Value of resales\$1,000 Contract receipts\$1,000 Other miscellaneous receipts\$1,000	X X X	Cost of purchased services for the repair of buildings and other structures ³ \$1,000 Response coverage ratio ⁴	x x
Primary products specialization ratio percent.	X	Cost of purchased services for the repair of machinery and equipment ³ \$1,000.	x
Value of primary products shipments made in all industries \$1,000 Value of primary products shipments made in this industry \$1,000	X	Response coverage ratio ⁴	X
Value of primary products shipments made in other industries\$1,000	х	Response coverage ratio ⁴	X X X
Coverage ratio percent	х	Response coverage ratio ⁴ percent. Cost of purchased accounting and bookkeeping services ³ \$1,000. Response coverage ratio ⁴ percent.	X X
Value added\$1,000	627 293	Cost of purchased advertising services ³	X X
Total inventories, beginning of year\$1,000	204 541	services ³	X X
Finished goods inventories, beginning of year	44 765	Cost of purchased refuse removal (including hazardous waste) services ³ \$1,000	х
Materials and supplies inventories, beginning of year \$1,000	68 793	Response coverage ratio ⁴ percent.	Х

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

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

Table 4. Industry Statistics by Employment Size: 1997

,												
		All establishments		All employees		Production workers						
Employment size class	E ¹	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
315232, WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG												
All establishments	2	726	300	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
Establishments with 1 to 4 employees Establishments with 5 to 9	6	149	-	331	7 831	234	387	4 067	22 280	32 362	54 686	484
employees Establishments with 10 to 19	2	105	-	721	16 498	537	919	9 317	56 211	75 429	129 002	918
employees Establishments with 20 to 49	2	172	-	2 467	48 089	1 873	3 067	25 877	122 714	223 311	348 323	2 256
employees Establishments with 50 to 99	1	170	170	5 155	87 836	4 313	6 931	53 674	243 795	290 545	524 785	5 075
employees Establishments with 100 to 249	1	72	72	5 052	117 039	3 714	6 847	55 351	347 910	560 997	891 973	5 429
employees Establishments with 250 to 499	3	46	46	7 166	167 467	5 210	9 513	95 609	498 405	747 329	1 231 735	9 804
employees Establishments with 500 to 999	2	9	9	3 222	54 789	1 777	3 075	24 591	240 300	306 082	530 511	3 599
employees Establishments with 1,000 to 2,499	1	3	3	2 124	53 994	1 602	2 375	33 329	133 663	154 189	280 528	3 722
employees Establishments with 2,500 employees	-	-	-	-	-			-	-	-	-	-
or more	-	-	-	-	-	-		-			-	-
Administrative records ²	8	112	-	458	8 185	302	462	4 344	26 411	38 884	65 181	535

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

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

size classes shown.

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

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

NAICS industry or product class code	Industry or primary product class	All	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)
315232	Women's & girls' cut & sew blouse & shirt mfg …	726	26 238	553 543	19 260	33 114	301 815	1 665 278	2 390 244	3 991 543	31 287
3152321	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and										
3152323	T-shirts	404 155	15 612 8 515	301 899 218 078	12 629 5 333	21 682 9 076	194 883 89 298	879 523 680 748	1 187 349 1 059 567	2 042 271 1 710 968	17 264 12 181

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)	
315232	Women's and girls' cut and sew blouses and shirts	N	x	x	4 146 795	N	x	x	N	
3152321	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts @	N	x	x	2 241 117	N	x	x	N	
31523210 3152321010	Women's, misses', and juniors' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts Women's, misses', and juniors' knit shirts and blouses, including polo,	N	х	х	1 897 186	N	x	x	Ν	
	tennis, cowl, tank, sweat, and T-shirts	583	х	х	1 897 186	413	х	х	1 495 796	
31523211 3152321120	Girls' knit shirts and blouses, including polo, tennis, tank, sweat, and T-shirts Girls' knit shirts and blouses, including	N	х	х	338 488	N	x	x	Ν	
	polo, tennis, tank, sweat, and T-shirts \$	74	х	х	338 488	N	х	х	N	
3152321Y 3152321YWV	Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts, nsk Women's, misses', juniors', and girls' knit shirts and blouses, including polo, tennis, cowl, tank, sweat, and T-shirts,	N	x	x	5 443	N	x	x	N	
3152323	nsk Women's, misses', juniors', and girls' woven shirts and blouses @	N	x x	x	5 443 1 826 463	N	x x	x x	N	
31523230	Women's, misses', juniors', and girls'									
3152323010	woven shirts and blouses Women's, misses', and juniors' woven	N	X	х	1 823 412	N	Х	Х	N	
3152323020	shirts and blouses	334 32	X X	X X	1 616 479 206 933	349 N	X X	X X	1 879 794 N	
3152323Y	Women's, misses', juniors', and girls' woven shirts and blouses, nsk	N	х	х	3 051	N	х	х	N	
3152323YWV	Women's, misses', juniors', and girls' woven shirts and blouses, nsk	N	х	х	3 051	N	х	х	N	
315232W	Women's and girls' cut and sew blouses and shirts, nsk, total	N	х	х	79 215	N	x	x	N	
315232WY	Women's and girls' cut and sew blouses		V	v	70.045		V	v		
315232WYWW	Women's and girls 'out and sew belowed Women's and girls' out and sew blouses and shirts, nsk, for nonadministrative-record	N	Х	х	79 215	N	х	х	Ν	
315232WYWY	establishments	N	x x	x	21 004 58 211	N	x x	x 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: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

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

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

NAICS product class	Product class and geographic area	Value of product shipments (\$1,000)				
code		1997	1992			
3152321	WOMEN'S, MISSES', JUNIORS', AND GIRLS' KNIT SHIRTS AND BLOUSES, INCLUDING POLO, TENNIS, COWL, TANK, SWEAT, AND T-SHIRTS @					
	United States	2 241 117	Ν			
	Arizona California Florida Georgia Hawaii	7 219 822 437 89 947 56 340 4 135	N N N N N			
	Illinois Massachusetts Mississippi Missouri New Jersey	4 573 12 111 20 022 12 632 215 164	N N N N			

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			
3152321	WOMEN'S, MISSES', JUNIORS', AND GIRLS' KNIT SHIRTS AND BLOUSES, INCLUDING POLO, TENNIS, COWL, TANK, SWEAT, AND T-SHIRTS @-Con.					
	New York North Carolina Ohio Pennsylvania South Carolina	415 264 102 651 5 801 74 726 39 473	N N N N N			
	Tennessee Texas . Virginia	28 120 31 242 156 972	N N N N			
3152323	WOMEN'S, MISSES', JUNIORS', AND GIRLS' WOVEN SHIRTS AND BLOUSES @					
	United States	1 826 463	N			
	California. Florida Georgia Hawaii Illinois	926 142 27 342 33 853 3 505 2 482	N N N N N			
	New Jersey. New York North Carolina Pennsylvania South Carolina Tennessee Texas.	71 246 488 177 51 034 108 819 5 735 10 475 36 510				

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	Material consumed	19	97	1992		
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)	
315232	WOMEN'S & GIRLS' CUT & SEW BLOUSE & SHIRT MFG					
31321023 31322103 31324000 31311003 33999301 00970099 00971000	Broadwoven fabrics (piece goods) Narrow fabrics (12 inches or less in width) Knit fabrics. Yarn, all fibers. Buttons, zippers, and slide fasteners All other materials and components, parts, containers, and supplies. Materials, ingredients, containers, and supplies, n.s.k.	Х	528 097 68 985 515 299 89 840 62 765 83 702 179 685	X X X X X X X	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: ^p 10 to 19 percent estimated; ^q 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Appendix A. Explanation of Terms

BEGINNING- AND END-OF-YEAR INVENTORIES

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

Inventory Data by Stage of Fabrication

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

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

COST OF MATERIALS

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

Included in this item are:

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

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

Specific Materials Consumed

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

Duplication in Cost of Materials and Value of Shipment

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

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

315232 WOMEN'S AND GIRLS' CUT AND SEW BLOUSE AND SHIRT MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric. Women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315232 include the following SIC industries:

- 2331 Women's blouses and waists (pt)
- 2361 Girls' and children's dresses and blouses (pt)

3152321 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing - Manufacturer

Establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric.

3152322 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing - Jobbers

Establishments engaged as women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

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
@3152321	For additional detail, see Current Industrial Report MQ315A, Apparel.
\$ 3152321010	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.
\$ 3152321120	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.
@3152323	For additional detail, see Current Industrial Report MQ315A, Apparel.

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
3151111 pt 3151111 pt 315111111 3151111121 3151111131 3151111131 3151111191 pt 3151111191 pt	2251417 2252513 2251413 2251419 2251424 pt	22514 22525 pt 2251417 2252513 2251413 2251413 2251415 2251415 2251423	315191W pt 315191WYWW pt 315191WYWW pt 315191WYWY pt 315191WYWY pt 315191WYWY pt 3151921 3151921	2259000 pt 2253002 2259002 pt 22541 2254111	22590 pt 2253000 2259000 pt 2253002 2259002 pt 225411 2254111	315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt	2311002 pt 232102 pt 2321002 pt 2322902 pt 2322002 pt 2325002 pt 2325902 2326002 pt	2311002 pt 2321002 pt 2321002 pt 2322902 pt 23225002 pt 2325002 pt 2325902 2326002 pt
3151111YWV pt 3151111YWV pt 3151113 3151113111 3151113221 3151113221	2251400 2252500 pt 22516 2251612 2251614 2251616	2251400 2252500 pt 22516 2251612 2251614 2251616	3151921120 3151921YWV 3151923 3151923110 3151923120 3151923YWV	2254413	2254113 2254100 22544 2254411 2254413 2254400	315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt 315211WYWY pt	2326902 2329002 pt 2341002 pt 2384002 pt 2385002 pt	2326902 2329002 pt 2341002 pt 2384002 pt 2385002 pt
3151113351 3151113391 3151113YWV 3151115	2251600 22518	2251617 2251619 2251600 22518	3151927 3151927110 3151927120 3151927YWV 315192W pt	2259030 2259040 2259000 pt		315211WYWY pt 3152121 3152121100 3152123 pt	2395002 pt 23319 pt	2395002 pt 23319 pt
3151115131 3151115YWV 315111W pt	2251814 2251817 2251800 22510 22520 pt	2251817 2251800 22510	315192W pt 315192WYWW pt 315192WYWW pt 315192WYWW pt 315192WYWY pt	2259000 pt 2254002	22590 pt 2254000 2259000 pt 2254002 2259002 pt	3152123 pt 3152123100 pt 3152123100 pt	23619 pt 2335900 2361900	23619 pt 2335900 2361900
315111WYWW pt 315111WYWW pt 315111WYWY pt 315111WYWY pt	2251000 2252000 pt 2251002 2252002 pt	2251000 2252000 pt 2251002 2252002 pt	3152111 3152111100 3152113 3152113	2311900 23219 pt	23219 pt	3152125 3152125100 3152127 pt 3152127 pt	23379 pt 2337900 23399 pt 23699 pt	23379 pt 2337900 23399 pt 23699 pt
3151191 3151191111 3151191221 3151191331 3151191441 3151191551	2252223 2252225 2252233 2252235 2252243	2252225 2252233 2252235 2252243	3152115 3152115100 3152117 3152117	23229 2322900 23259 pt	23229	3152127100 pt 3152127100 pt 3152129 3152129100 pt	2339900 2369900 23419 pt 2341901	2339900 2369900 23419 pt 2341900 pt
3151191561 3151191591 3151191YWV 3151193	2252245 2252287 2252200	2252245 2252287 2252200 22525 pt	3152119 3152119 3152119100 315211B 315211B	23269 pt 2326900 23299 pt	23269 pt 2326900 23299 pt	3152129100 pt 3152129100 pt 3152128 315212B100	2341903 2341900 23429 2342900	2341900 pt 2341900 pt 23429 2342900
3151193121 3151193131 3151193241 3151193251 3151193261	2252501 2252503 2252521 2252527 2252533	2252501 2252503 2252521 2252527 2252531	315211D 315211D 315211D100 pt 315211D100 pt 315211F	2329900 23849 pt 2384994 2384900 pt 23859 pt	2329900 93000 pt 9300000 pt 9300000 pt 23859 pt	315212D 315212D100 pt 315212D100 pt 315212F	23849 pt 2384995 2384900 pt 23859 pt	93000 pt 9300000 pt 9300000 pt 23859 pt
3151193371 3151193381 3151193391 31511933B1 31511933WV	2252557 2252561 2252588 2252500 pt	2252557 2252561 2252581 2252500 pt	315211F100 pt 315211F100 pt 315211H 315211H	2385910 2385900 pt 23959 pt 2395900 pt	2385900 pt 2385900 pt 23958 pt 2395800 pt	315212F100 pt 315212F100 pt 315212H 315212H 315212H100 pt 315212H100 pt	2385920 2385900 pt 23959 pt 2395900 pt 2395994	2385900 pt 2385900 pt 23958 pt 2395800 pt 2395833
3151195121 3151195131 3151195YWV	2252651 2252600	2252642 2252651 2252600	315211H100 pt 315211W pt 315211W pt 315211W pt	23110 pt 23119 pt		315212J 315212J100 pt 315212J100 pt 315212J100 pt	23899 2389993 2389900 23310 pt	93000 pt 9300000 pt 9300000 pt 23310 pt
315119W 315119WYWW 315119WYWY	2252002 pt		315211W pt	23219 pt 23220 pt	23219 pt 23220 pt	315212W pt 315212W pt	23319 pt 23350 pt	23319 pt 23350 pt
3151913	2253400 22535	2253400 22535	315211W pt	23250 pt	23250 pt	315212W pt	23359 pt	23359 pt
3151915	2253500 22536 2253600	22536	315211W pt	23259 pt 23260 pt	23260 pt	315212W pt 315212W pt	23379 pt	23370 pt 23379 pt
3151917	2253A 2253A00	2253A	-	23269 pt 23290 pt		-	23390 pt 23399 pt	
3151919 3151919100 315191A	2253B 2253B00			23299 pt 23410 pt		-	23410 pt 23419 pt	
315191A100 315191C	2253C00	2253C00 2253D	-	23840 pt 23850 pt			23420 pt 23610 pt	
315191CYWV	2253D05 2253D09 2253D00	2253D05 2253D09 2253D00	315211W pt 315211WYWW pt 315211WYWW pt	23950 pt 2311000 pt 2321000 pt	23950 pt 2311000 pt 2321000 pt	315212W pt	23619 pt 23690 pt	23619 pt
	2253E 2253E00 2253E02		315211WYWW pt	2322000 pt 2325000 pt 2326000 pt 2329000 pt 2341000 pt	2322000 pt 2325000 pt 2326000 pt 2329000 pt 2341000 pt		23699 pt 23840 pt	
	22590 pt 2259020 22530			2384000 pt 2385000 pt	2384000 pt 2385000 pt	-	23850 pt 23890 pt	

MANUFACTURING-INDUSTRY SERIES

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
315212W pt 315212WYWW pt 315212WYWW pt 315212WYWW pt 315212WYWW pt	2331000 pt 2335000 pt 2337000 pt	23950 pt 2331000 pt 2335000 pt 2337000 pt 2339000 pt	315223W pt 315223WYWW pt 315223WYWW pt 315223WYWY pt 315223WYWY pt	2321002 pt	2321002 pt	3152323 pt 3152323010 3152323020 3152323YWV pt 3152323YWV pt	23614 pt 2331400 pt 2361401 2331400 pt 2361400 pt	23614 pt 2331400 pt 2361400 pt 2331400 pt 2361400 pt
315212WYWW pt 315212WYWW pt	2341000 pt	2341000 pt 2342000 pt	3152241 pt	23251	23251	315232W pt	23310 pt	23310 pt
315212WYWW pt 315212WYWW pt 315212WYWW pt 315212WYWW pt	2369000 pt 2384000 pt 2385000 pt	2361000 pt 2369000 pt 2384000 pt 2385000 pt	3152241 pt 3152241010 3152241020 3152241YWV pt 3152241YWV pt	2369342 2325100 pt	2369340 pt 2325100 pt	315232W pt 315232WYWW pt 315232WYWW pt 315232WYWY pt 315232WYWY pt	2361000 pt	23610 pt 2331000 pt 2361000 pt 2331002 pt 2361002 pt
315212WYWW pt 315212WYWW pt 315212WYWY pt	2389000 pt 2395000 pt 2331002 pt	2389000 pt 2395000 pt 2331002 pt	3152243 3152243000	•	23252 2325200	3152330 pt	23350 pt	23350 pt
315212WYWY pt 315212WYWY pt 315212WYWY pt	2331902 2335002 pt	2331902 2335002 pt 2335902	315224W pt	23250 pt	23250 pt	3152330 pt 3152330 pt	23353 23610 pt	23353 23610 pt
315212WYWY pt 315212WYWY pt 315212WYWY pt 315212WYWY pt	2337002 pt 2337902 2339002 pt 2339902	2337002 pt 2337902 2339002 pt 2339902	315224W pt 315224WYWW pt 315224WYWW pt 315224WYWW pt 315224WYWY pt 315224WYWY pt	2369000 pt 2325002 pt	2369000 pt 2325002 pt	3152330 pt 3152330010 3152330020 3152330YWW pt 3152330YWW pt	23615 pt 2335300 pt 2361501 2335000 pt	23615 pt 2335300 pt 2361500 pt 2335000 pt 2335300 pt
315212WYWY pt 315212WYWY pt 315212WYWY pt 315212WYWY pt 315212WYWY pt	2341902 2342002 pt 2361002 pt 2361902	2342002 pt 2361002 pt 2361902	3152251 3152251000 3152253 3152253	23261 2326100 23262 2326200	23261 2326100 23262 2326200	3152330YWW pt 3152330YWW pt 3152330YWW pt 3152330YWY pt 3152330YWY pt	2335300 pt 2361000 pt 2361500 pt 2335002 pt 2361002 pt	2361000 pt 2361500 pt 2335002 pt 2361002 pt
315212WYWY pt 315212WYWY pt	2369002 pt 2369902	2369002 pt 2369902	315225W	23260 pt	23260 pt	3152341 pt	23371	23371
315212WYWY pt 315212WYWY pt 315212WYWY pt 315212WYWY pt	2385002 pt 2389002 pt 2395002 pt		315225WYWW 315225WYWY 3152281 3152281000	2326002 pt 23291	2326002 pt 23291	3152341 pt 3152341010 3152341020 3152341YWV pt 3152341YWV pt	2369201 2337100 pt	23692 pt 2337100 pt 2369200 pt 2337100 pt 2369200 pt
3152211 pt	23412 pt	23221 23412 pt	3152283 pt 3152283 pt	23293 pt 23693 pt	23293 pt 23693 pt	3152343 3152343000	23372	23372 2337200
3152211010 3152211020 3152211YWV pt	2322100 pt 2341203 2322100 pt	2322100 pt 2341200 pt 2322100 pt	3152283010 3152283020	2329310 2369395	2329310 2369393 pt	3152345 pt	23374	23374
3152211YWV pt 3152213 pt 3152213 pt	23222 23413 pt	2341200 pt 23222 23413 pt 2322200 pt	3152283130 3152283140 3152283150 3152283YWV pt 3152283YWV pt	2329360 2369372 2329380 2329300 2369300 pt	2329360 2369370 pt 2329380 2329300 2369300 pt	3152345 pt 3152345010 3152345030 3152345120 3152345120	23693 pt 2337410 2369394 2337420 2337400	23693 pt 2337410 2369393 pt 2337420 2337400
3152213010 3152213020 3152213YWV pt	2341303 2322200 pt	2341300 pt 2322200 pt	3152285 3152285100	23851 pt 2385193	23851 pt 2385198 pt	3152345YWV pt	23851 pt	2369300 pt 23851 pt
3152213YWV pt 3152215 pt		2341300 pt 23693 pt	315228W pt 315228W pt	23290 pt 23690 pt	23290 pt 23690 pt	3152347000 315234W pt	2385142 23370 pt	2385140 pt 23370 pt
3152215 pt 3152215000 pt	23840 pt 2369382	23840 pt 2369380 pt	315228W pt 315228WYWW pt	23850 pt	23850 pt	315234W pt 315234W pt	23690 pt 23850 pt	23690 pt 23850 pt
3152215000 pt 315221W pt			315228WYWW pt 315228WYWW pt	2369000 pt 2385000 pt	2369000 pt 2385000 pt	315234WYWW pt 315234WYWW pt	2337000 pt 2369000 pt	2337000 pt 2369000 pt
315221W pt		23410 pt 23690 pt	315228WYWY pt 315228WYWY pt 315228WYWY pt	2329002 pt 2369002 pt 2385002 pt	2329002 pt 2369002 pt 2385002 pt	315234WYWW pt 315234WYWY pt 315234WYWY pt 315234WYWY pt	2385000 pt 2337002 pt 2369002 pt 2385002 pt	2385000 pt 2337002 pt 2369002 pt 2385002 pt
315221W pt 315221WYWW pt 315221WYWW pt 315221WYWW pt	2322000 pt 2341000 pt	23840 pt 2322000 pt 2341000 pt 2369000 pt	3152311 3152311010 3152311020 3152311020	23412 pt 2341201 2341202 2341200 pt	23412 pt 2341200 pt 2341200 pt 2341200 pt 2341200 pt	3152391 3152391000	23392 2339200 23394	23392 2339200 23394
315221WYWW pt 315221WYWY pt 315221WYWY pt 315221WYWY pt	2384000 pt 2322002 pt 2341002 pt 2369002 pt	2384000 pt 2322002 pt 2341002 pt 2369002 pt	3152313 3152313010 3152313020 3152313YWV	23413 pt 2341301 2341302 2341300 pt	2341300 pt	3152393 3152393000 3152395 pt 3152395 pt	2339400	2339400 23395 23693 pt
315221WYWY pt 3152221 pt		2384002 pt 23115	3152315		23421	3152395010 3152395020	2339500 pt 2369341	2339500 pt 2369340 pt
3152221 pt 3152221010 3152221020	23692 pt 2311500 2369202	23692 pt 2311500 2369200 pt		23422 23890 pt	23422 23890 pt	3152395YWV pt 3152395YWV pt 3152397 pt	2339500 pt 2369300 pt 23397 pt	2339500 pt 2369300 pt 23397 pt
3152221YWV	2369200 pt	2369200 pt	3152317110	2342210	2342210 2342281	3152397 pt 3152397 pt 3152397020	23693 pt 2339760	23693 pt 2339760
3152223 3152223000 3152225 3152225	2311600 23117 2311700	2311600 23117 2311700	3152317151 3152317YWV pt	2389071	2389071 2342200	3152397110 3152397130 3152397140 3152397YWV pt	2339730 2339780 2369371 2339700	2339730 2339780 2369370 pt 2339700
3152227 3152227000 pt 3152227000 pt		23851 pt 2385100 pt 2385140 pt	3152319 pt 3152319 pt	23840 pt	23693 pt 23840 pt	3152397YWV pt	2369300 pt 23851 pt	2369300 pt 23851 pt
315222W pt	23110 pt	•	3152319000 pt 3152319000 pt	2369381 2384021	2369380 pt 2384021	3152399100 315239W pt	2385194 23390 pt	2385198 pt 23390 pt
315222W pt 315222W pt	•	23690 pt 23850 pt	315231W pt 315231W pt	23410 pt 23420 pt	23410 pt 23420 pt	315239W pt	23690 pt	23690 pt
315222WYWW pt 315222WYWW pt 315222WYWW pt	2311000 pt 2369000 pt 2385000 pt	2311000 pt 2369000 pt 2385000 pt	315231W pt 315231W pt	23690 pt 23840 pt	23690 pt 23840 pt	315239W pt 315239WYWW pt 315239WYWW pt 315239WYWW pt	23850 pt 2339000 pt 2369000 pt 2385000 pt	23850 pt 2339000 pt 2369000 pt 2385000 pt
315222WYWY pt 315222WYWY pt 315222WYWY pt	2369002 pt	2311002 pt 2369002 pt 2385002 pt	315231W pt 315231WYWW pt 315231WYWW pt	23890 pt 2341000 pt 2342000 pt	23890 pt 2341000 pt 2342000 pt	315239WYWY pt 315239WYWY pt 315239WYWY pt	2339002 pt 2369002 pt 2385002 pt	2339002 pt 2369002 pt 2385002 pt
3152231 pt			315231WYWW pt	2369000 pt 2384000 pt	2369000 pt 2384000 pt	3152910 pt	23410 pt	23410 pt
3152231 pt 3152231010 3152231020	2321300 pt 2361302	23613 pt 2321300 pt 2361300 pt	315231WYWW pt 315231WYWY pt 315231WYWY pt	2389000 pt 2341002 pt 2342002 pt	2389000 pt 2341002 pt 2342002 pt	3152910 pt 3152910 pt		23412 pt 23413 pt
3152231YWV pt 3152231YWV pt	2321300 pt 2361300 pt	2321300 pt 2361300 pt	315231WYWY pt 315231WYWY pt	2369002 pt 2384002 pt	2369002 pt 2384002 pt	3152910 pt	•	
3152233 pt			315231WYWY pt 3152321 pt	2389002 pt 23313	2389002 pt 23313	3152910 pt		23613 pt
3152233 pt 3152233010 3152233020	2361402	2361400 pt	3152321 pt	23613 pt 2331300	23613 pt	3152910 pt	•	•
3152233YWV pt 3152233YWV pt	2321600 pt	2321600 pt	3152321120	2361301 2361300 pt	2361300 pt	3152910 pt	23690 pt	23690 pt
315223W pt	23210 pt	23210 pt	3152323 pt	23314	23314	3152910 pt	23692 pt	23692 pt

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
3152910 pt	23693 pt	23693 pt	315299W pt	23390 pt	23390 pt	3159995 3159995111	23871 2387113	23871 2387113
3152910 pt	23850 pt	23850 pt	315299W pt		23890 pt	3159995121	2387115	2387115
3152910 pt	23851 pt	23851 pt		2329000 pt		3159995131	2387153	2387153
3152910110	2341204	2341200 pt	315299WYWW pt	2339000 pt 2389000 pt	2339000 pt 2389000 pt	3159995141	2387155	2387155
	2341304		315299WYWY pt	2329002 pt	2329002 pt	3159995YWV	2387100	2387100
3152910230	2361303 2361403	2361300 pt 2361400 pt	315299WYWY pt	2339002 pt	2339002 pt	3159997	23872	
3152910240			315299WYWY pt	2389002 pt	2389002 pt	3159997111	2387213	
3152910260	2369203	2369200 pt	3159911	23531	23531	3159997121	2387215 2387253	
	2369343			2353101		3159997141	2387255	
31529102A0 31529102C0 pt	2369373 2369396	2369370 pt	3159911121	2353103	2353103 2353105	3159997YWV	2387200	
3152910200 pt	2385171	2369393 pt 2385171		2353105		315999A	23890 pt	23890 pt
				2353100		315999A111	2389045	
	2341000 pt		3159913	23532	23532	315999A221	2389053	2389053
3152910YWW pt	2341200 pt 2341300 pt	2341200 pt 2341300 pt	3159913111	2353201	2353201	315999A231 315999AYWV	2389057	
3152910YWW pt	2361000 pt			2353203		315999AYWV	2389000 pt	2389000 pt
3152910YWW pt	2361300 pt	2361300 pt	3159913131	2353205	2353205	315999C pt	23961	23961
3152910YWW pt	2361400 pt	2361400 pt	3159913141		2353209	315999C pt	23990 pt	23990 pt
3152910YWW pt	2361500 pt 2369000 pt	2361500 pt 2369000 pt	3159913100	2353200	2353200	315999C111 pt	2396111	2396111
3152910YWW pt		2369200 pt	3159915		23533	315999C111 pt	2399091	
3152910YWW pt	2369300 pt	2369300 pt	3159915111	2353301	2353301	315999C121	2396153	2396153
3152910YWW pt	2385000 pt	2385000 pt	3159915121	2353303 2353309	2353303 2353309	315999CYWV pt 315999CYWV pt	2396100 2399000 pt	
3152910YWW pt	2385100 pt	2385100 pt	3159915YWV	2353300	2353300			•
3152910YWY pt	2341002 pt	2341002 pt	315991W		23530	315999E 315999E100	23963 pt 2396313	23963 pt 2396311
	2361002 pt		315991WYWW	2353000	2353000	313335100	2390313	2390311
3152910YWY pt	2369002 pt 2385002 pt			2353002		315999G	56990 pt	
	•	•	3159921	23813	23813	315999G100 pt 315999G100 pt	5699010 5699020	
3152921	23710 pt 2371000 pt	23710 pt 2371000 pt		2381300		3133336100 pt	5055020	3033000 pt
	•		3150023	23814	23814	315999W pt	23390 pt	23390 pt
3152925	23860 pt 2386015	23860 pt 2386015		2381400	2381400	315999W pt	23850 pt	23850 pt
3152925221		2386053		31510 pt			•	·
3152925231	2386098	2386098	3159925000	3151000 pt	3151000 pt	315999W pt	23870	23870
3152925YWV	2386000 pt	2386000 pt		•	23810	315999W pt	23890 pt	23890 pt
315292W pt	23710 pt	23710 pt		23810		215000W/ pt	23960 pt	23960 pt
315292W pt	23860 pt	23860 pt	315992W pt		31510 pt 2381000	315999W pt	20000 pt	·
315292WYWW pt	2371000 pt	2371000 pt		2381000 3151000 pt		315999W pt	23990 pt	23990 pt
315292WYWW pt	2386000 pt	2386000 pt	315992WYWY pt	2381002	2381002	315999W pt	56990 pt	56990 pt
315292WYWY pt	2371002	2371002 2386002	315992WYWY pt	3151002	3151002	315999WYWW pt	2339000 pt	
			3159930	23230	23230	315999WYWW pt	2385000 pt	2385000 pt
3152991	23293 pt	23293 pt	3159930111	2323021	2323021	315999WYWW pt	2387000	2387000
3152991100	2329330	2329330	3159930121		2323027	315999WYWW pt 315999WYWW pt	2389000 pt 2396000 pt	2389000 pt 2396000 pt
3152993		23397 pt	3159930231	2323028 2323049		315999WYWW pt	2399000 pt	2399000 pt
3152993100	2339720	2339720	3159930YWW	2323000	2323000	315999WYWW pt	5699000	5699000 pt
	23890 pt	23890 pt	3159930YWY			315999WYWY pt	2339002 pt	
3152995111	2389081	2389081	3150001	23397 pt	23397 pt	315999WYWY pt 315999WYWY pt	2385002 pt 2387002	2385002 pt 2387002
3152995121	2389091 2389098	2389091 2389098		2339770	23397 pt 2339770	315999WYWY pt	2389002 pt	
3152995YWV	2389000 pt	2389000 pt				315999WYWY pt	2396002 pt	2396002 pt
	23290 pt	•		23851 pt 2385190		315999WYWY pt 315999WYWY pt	2399002 pt 5699002	
313233W hr	23230 pt	20290 pt	3139993100	2303190	2000 190 hr	21299900 100 1 pl	JUJJUU2	2033000 hr

EC97M-3152J