

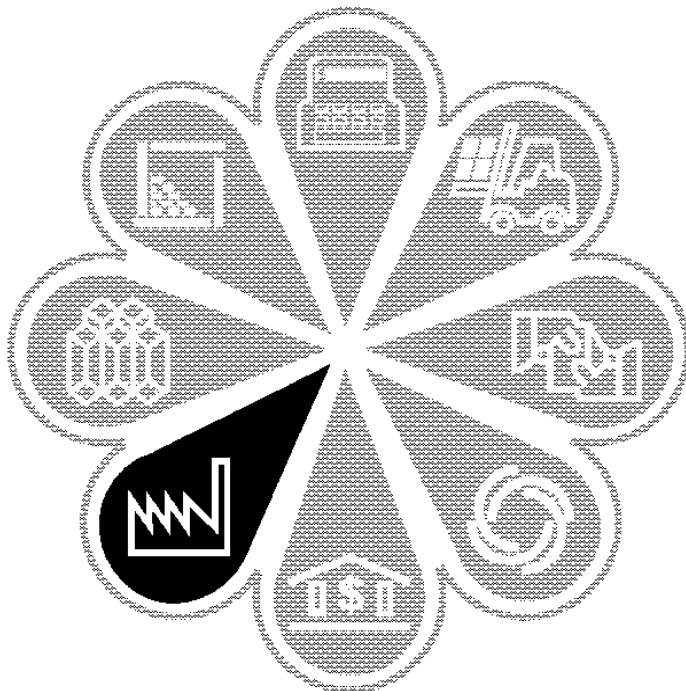
1992 Census of Manufactures

MC92-I-35D

INDUSTRY SERIES

Special Industry Machinery, Except Metalworking Machinery

Industries 3552, 3553, 3554, 3555, 3556,
and 3559



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Ronald H. Brown, Secretary
David J. Barram, Deputy Secretary

Economics and Statistics Administration
Everett M. Ehrlich, Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS
Martha Farnsworth Riche, Director

Acknowledgments

Many persons participated in the various activities of the 1992 Census of Manufactures. The overall planning and review of the census operations were performed by the Economic Census Staff of the Economic Planning and Coordination Division.

Manufacturing and Construction Division prepared this report. **David W. Cartwright**, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination of the census of manufactures. Planning and implementation were under the direction of **Kenneth I. Hansen**, Chief, Metals and Industrial Machinery Branch, assisted by **J. Michael Brown**, Section Chief, with primary staff assistance by **Joanna T.Q. Nguyen**.

Brian Greenberg, Assistant Chief for Research and Methodology Programs, assisted by **Stacey Cole**, provided the mathematical and statistical techniques as well as the coverage operations.

Baruti A. Taylor, under the direction of **A. William Visnansky**, Chief, Special Reports Branch, performed overall coordination of the publication process. **Julius Smith, Jr.** and **Andrew W. Hait** provided primary staff assistance.

The Economic Planning and Coordination Division provided the computer processing procedures. **Shirin A. Ahmed**, Assistant Chief for Post Data Collection Processing, was responsible for editing and the analysts' interactive database review and correction system. Design and specifications were prepared under the supervision of **Dennis L. Wagner**, Chief, Post Collection Census Branch, assisted by **S. Mark Schmidt** and **Robert A. Rosati**.

The staff of the Data Preparation Division, **Judith N. Petty**, Acting 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, was responsible for design and implementation of the computer systems. **Gary T. Sheridan**, Chief, Manufactures and Construction Branch, assisted by **Gerald S. Turnage**, supervised the preparation of the computer programs.

Computer Services Division, **Marvin D. Raines**, Chief, performed the computer processing.

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

Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call 301-457-4755.



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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.

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

Policymaking agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

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 and 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.

AUTHORITY AND SCOPE

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 1992 Economic Census consists of the following eight censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Financial, Insurance, and Real Estate Industries
- Census of Transportation, Communications, and Utilities
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1992 Census of Agriculture and 1992 Census of Governments are conducted separately.) The next economic census is scheduled to be taken in 1998 covering the year 1997.

AVAILABILITY OF THE DATA

The results of the economic census are available in printed reports for sale by the U.S. Government Printing Office and on compact discs for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Bureau of the Census, Washington, DC 20233-8300. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State data centers in every State as well as business and industry data centers in many States also supply economic census statistics.

WHAT'S NEW IN 1992

The 1992 Economic Census covers more of the economy than any previous census. New for 1992 are data on communications, utilities, financial, insurance, and real estate, as well as coverage of more transportation industries. The economic, agriculture, and governments censuses now collectively cover nearly 98 percent of all economic activity.

Among other changes, new 1992 definitions affect the boundaries of about a third of all metropolitan areas. Also, the Survey of Women-Owned Businesses has now been expanded to include all corporations.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1963, 1958, and 1954. Prior to that time, the individual subcomponents 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 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 Manufactures Census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade and construction industries, but it was broadened in 1933 to include some of the service trades.

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 Enterprise Statistics Program, which publishes combined data from the economic census, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The census of construction industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The census of transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks, but expanded in 1987 to cover business establishments in several transportation industries. For 1992, these statistics are incorporated into a broadened census of transportation, communications, and utilities. Also new for 1992 is the census of financial, insurance, and real estate industries. This is part of a gradual expansion in coverage of industries previously subjected to government regulation.

The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic census in 1972 along with the Survey of Women-Owned Businesses.

An economic census has also been taken in Puerto Rico since 1909, in the Virgin Islands of the United States and Guam since 1958, and in the Commonwealth of the Northern Mariana Islands since 1982.

Statistical reports from the 1987 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the census provides complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, with the results appearing in publication series such as Current Business Reports (retail and wholesale trade and service industries), the Annual Survey of Manufactures, Current Industrial Reports, and the Quarterly Financial Report. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the census. The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

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 1992 Economic Census and Related Statistics*. More information on the methodology, procedures, and history of the census will be published in the *History of the 1992 Economic Census*. Contact Customer Services for information on availability.

Census of Manufactures

GENERAL

This report, from the 1992 Census of Manufactures, is one of a series of 83 industry reports, each of which provides statistics for individual industries or groups of related industries. Additional separate reports will be issued for each State and the District of Columbia and for special subjects such as manufacturers' shipments to the federal government and concentration ratios in manufacturing.

The industry reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, capital expenditures, product shipments, etc.

State reports present similar statistics for each State and its important metropolitan areas (MA's), counties, and places. Selected statistical totals for "all manufacturing" have been shown in the State reports for MA's with 250 employees or more and for counties and places with 500 employees or more.

The *General Summary* report contains industry, product class, and geographic area statistics summarized in one report. The introduction to the *General Summary* discusses, at greater length, many of the subjects described in this introduction. For example, the *General Summary* text discusses the relationship of value added by manufacture to national income by industry of origin, the changes in statistical concepts over the history of the censuses, and the valuation problems arising from intracompany transfers between manufacturing plants of a company and between manufacturing plants and sales offices and sales branches of a company.

SCOPE OF CENSUS AND DEFINITION OF MANUFACTURING

The 1992 Census of Manufactures covers all establishments with one paid employee or more primarily engaged in manufacturing as defined in the *1987 Standard Industrial Classification (SIC) Manual*¹. This is the system of industrial classification developed by experts on classification in Government and private industry under the guidance of the Office of Information and Regulatory Affairs, Office of

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Management and Budget. This classification system is used by Government agencies as well as many organizations outside the Government.

The SIC Manual defines manufacturing as the mechanical or chemical transformation of substances or materials into new products. The assembly of component parts of products also is considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills that characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfers to other plants of the same company, or to the order of industrial users rather than for direct sale to the household consumer. Some manufacturers in a few industries sell chiefly at retail to household consumers through the mail, through house-to-house routes, or through salespersons. Some activities of a service nature (enameling, engraving, etc.) are included in manufacturing when they are performed primarily for trade. They are considered nonmanufacturing when they are performed primarily to the order of the household consumer.

RELATIONSHIP BETWEEN ANNUAL SURVEY OF MANUFACTURES AND CENSUS OF MANUFACTURES

The Bureau of the Census conducts the annual survey of manufactures (ASM) in each of the 4 years between the censuses of manufactures. The ASM is a probability-based sample of approximately 62,000 establishments and collects the same industry statistics (employment, payroll, value of shipments, etc.) as the census of manufactures. In addition to collecting the information normally requested on the census form, the establishments in the ASM sample are requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, costs of purchased services, and foreign content of materials consumed. Except for supplemental labor costs, the extra ASM items are collected only in census years.

ESTABLISHMENT BASIS OF REPORTING

The census of manufactures is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each

location. 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 1992, 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. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company (see Auxiliaries).

MANUFACTURING UNIVERSE AND CENSUS REPORT FORMS

The 1992 Census of Manufactures universe includes approximately 380,000 establishments. 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. 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.** In the 1992 Census of Manufactures, approximately 143,000 small single-establishment companies were excused from filing reports. Selection of these small establishments was done on an industry-by-industry basis and was based on annual payroll and total shipments data as well as on the industry classification codes contained in the administrative records of Federal agencies. The cutoffs were selected so that these administrative-records cases would account for no more than 3 percent of the value of shipments for all manufacturing. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms.

Information on the physical location of the establishment, as well as information on payrolls, receipts (shipments), and industry classification, was obtained from the administrative records of other Federal agencies under special arrangements, which 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" (n.s.k.) categories.

The industry classification codes included in the administrative-records 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 at the four-digit SIC level. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes these administrative-records cases were only given a two- or three-digit SIC group. For the 1992 Census of Manufactures, 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 four-digit SIC level. Establishments that did not return the classification form were coded later to those four-digit SIC industries identified as "not elsewhere classified" (n.e.c.) within the given two- or three-digit industry groups.

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 over 237,000 establishments covered in the mail canvass were divided into three groups:

- a. **ASM sample establishments.** This group consisted of approximately 62,000 establishments covering 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 (see Appendix B, Annual Survey of Manufactures).

In a census of manufactures 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 information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services. See appendix A, section 2, for an explanation of these items.

The census part of the report form is 1 of approximately 200 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of these many forms to canvass the 459 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 be performing. Respondents were requested to identify the products, the value of each product, and, in a large number of cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

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

Finally, 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 112,000 establishments were included in this group. A variable cutoff, based on administrative-records payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the approximately 200 census of manufactures 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 consisted of approximately 63,000 establishments. For those industries where application of the variable cutoff for administrative-records 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 approximately 80 versions of the short form, which requested summary product and

material data and totals but no details on employment, payrolls, cost of materials, inventories, and capital expenditures.

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

AUXILIARIES

In this industry report, the data on employment and payroll are limited to operating manufacturing establishments. The census report form filed for auxiliaries (ES-9200) requested a description of the activity of the establishments serviced. However, the manufacturing auxiliaries were coded only to the two-digit major group of the establishments they served; whereas, the operating establishments were coded to a four-digit manufacturing industry. Data for the approximately 11,000 separately operated auxiliaries are included in the geographic area series and in a report issued as part of the 1992 Enterprise Statistics Survey.

Auxiliaries are establishments whose employees are primarily engaged in performing supporting services for other establishments of the same company, rather than for the general public or for other business firms. They can be at different locations from the establishments served or at the same location as one of those establishments but not operating as an integral part thereof and serving two establishments or more. Where auxiliary operations are conducted at the same location as the manufacturing operation and operate as an integral part thereof, they usually are included in the report for the operating manufacturing establishment.

Included in the broad category of auxiliaries are administrative offices. Employees in administrative offices are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include the following:

1. Program planning, including sales research and coordination of purchasing, production, and distribution
2. Company purchasing, including general contracts and purchasing methods
3. Company financial policy and accounting
4. General engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations
5. Company personnel matters
6. Legal and patent matters

Other types of auxiliaries serving the plants or central management of the company include purchasing offices, sales promotion offices, research and development organizations, etc.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the census was classified in 1 of 459 manufacturing industries in accordance with the industry definitions in the 1987 SIC Manual. The 1987 edition of this manual represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. Appendix A of the 1987 Manual notes the revisions in the four-digit industry levels between 1972/77 and 1987.

An industry is generally defined as a group of establishments producing the same product or a closely related group of products. The product groupings from which industry classifications are derived are based on considerations such as similarity of manufacturing processes, types of materials used, types of customers, and the like. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees. The system operates in such a way that the definitions progressively become narrower with successive additions of numerical digits. For 1992, there are 20 major groups (two-digit SIC), 139 industry groups (three-digit SIC), and 459 industries (four-digit SIC). This represents an expansion of four-digit industries from 452 in 1972/77 and a reduction of three-digit groups from 143 in 1972/77. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are about 11,000 products identified by a seven-digit code. The seven-digit products are considered the primary products of the industry with the same four digits.

Accordingly, an establishment is usually classified in a particular industry on the basis of its major activity during a particular year, i.e., production of the products primary to that industry exceeds, in value, production of the products primary to any other single industry. In a few instances, however, the industry classification of an establishment is not only determined by the products it makes but also by the process employed in operations. Refining of nonferrous metals from ore or rolling and drawing of nonferrous metals (processes which involve heavy capitalization in specialized equipment) would be classified according to the process used during a census year. These establishments then would be "frozen" in that industry during the following ASM years.

In either a census or ASM year, establishments included in the ASM sample with certainty weight, other than those involved with heavily capitalized activities described above, 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 (see Appendix B, Annual Survey of Manufactures). 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, at the aggregate level, some industries comprise different mixes of establishments between survey years and establishment data for such industry statistics as employment and payroll may be tabulated in different industries between survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the four-digit SIC 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-records 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.

While some establishments produce only the primary products of the industry in which they are classified, all establishments of an industry rarely specialize to this extent. The industry statistics (employment, inventories, value added by manufacture, total value of shipments including resales and miscellaneous receipts, etc.) shown in tables 1a through 5a, therefore, reflect not only the primary activities of the establishments in that industry but also their secondary activities. The product statistics in table 6a represent the output of all establishments whether or not they are classified in the same industry as the product. For this reason, in relating the industry statistics, especially the value of shipments to the product statistics, the composition of the industry's output shown in table 5b should be considered.

The extent to which industry and product statistics may be matched with each other is measured by two ratios which are computed from the figures shown in table 5b. The first of these ratios, called the primary product specialization ratio, measures the proportion of product shipments (both primary and secondary) of the establishments classified in the industry represented by the primary products of those establishments. The second ratio, called the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

However, establishments making products falling into the same industry category may use a variety of processes and materials to produce them. Also, the same industry classification (based on end products) may include both establishments that are highly integrated and those that

put only the finishing touches on an already highly fabricated item. For example, the refrigeration equipment industry includes instances of almost complete integration (production of the compressor, condensing unit, electric motor, casting, stamping of the case, and final assembly) all carried on at one plant. On the other hand, the condensing unit, the motor, and the case may be purchased and only assembled into the finished product.

In some instances, separate industry categories have been established for integrated and nonintegrated establishments. For other industries, the census provides separate statistics on the production of intermediate commodities made and used in the producing plant. For some industries characterized by many plants of the same company, separate figures on interplant transfers of products usually are shown.

Differences in the integration of production processes, types of operations, and alternatives in types of materials used should be considered when relating the industry statistics (employment, payrolls, value added, etc.) to the product and material data.

VALUE OF SHIPMENTS FOR THE INDUSTRY COMPARED WITH VALUE OF PRODUCT SHIPMENTS

This report shows value of shipments data for industries and products. In tables 1a through 5b, 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 table 6a represents the total value of all products shipped that are classified as primary to an industry.

CENSUS DISCLOSURE RULES

In accordance with Federal law governing census reports, no data are published that would disclose the data for an individual establishment or company. However, the number of establishments classified in a specific industry is not considered a disclosure, so this information may be released even though other information is withheld.

The disclosure analysis for the industry statistics in tables 1a through 5a of this report 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 new capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for new capital expenditures that can be suppressed even though value of shipments data are publishable.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1992 Census of Manufactures may be obtained on computer diskette or in tabular form. The data will be in summary form and 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) as are 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, Manufacturing and Construction Division, Bureau of the Census, Washington, DC 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (NC) Not comparable.
- (S) Withheld because estimate did not meet publication standards.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- n.e.c. Not elsewhere classified.
- n.s.k. Not specified by kind.
- pt. Part.
- r Revised.
- SIC Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

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SIC's 33-35 (exc. 357)	Kenneth Hansen	301-457-4755
SIC's 357, 36-39	Bruce Goldhirsch	301-457-4817
Import/ export publications	Foreign Trade Division	301-457-3041
Industry analysis and forecasting	International Trade Administration	202-377-4356

Users' Guide for Locating Statistics in This Report by Table Number

For explanation of terms, see appendixes

Item	Four-digit industry statistics							Five-digit product class and seven-digit product statistics			
	Historical	Operating ratios	By geographic area	Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class
Number of companies	1a			3a					*6a		
Number of establishments	1a		2	3a	4	5a					
Employment and payroll:											
Number of employees	1a	1b	2	3a	4	5a					
Payroll	1a	1b	2	3a	4	5a					
Supplemental labor costs				3a							
Production workers	1a	1b	2	3a	4	5a					
Production-worker hours	1a	1b	2	3a	4	5a					
Production-worker wages	1a	1b	2	3a	4	5a					
Shipments, cost of materials, and value added:											
Value of shipments (four-digit)	1a	1b	2	3a	4	5a		5b			
Product class shipments (five-digit)									6a	6b	6c
Product shipments (seven-digit)									6a		
Value added by manufacture	1a	1b	2	3a	4	5a					
Cost of materials	1a	1b	2	3a	4	5a					
Fuels and electric energy				3a							
Materials consumed by kind							7				
Inventories:											
Total, end of year	1a			3a	4						
By stage of fabrication				3a							
Capital expenditures, assets, rental payments, and purchased services:											
New capital expenditures	1a		2	3b	4	5a					
Used plant and equipment expenditures				3b							
Gross assets				3b							
Depreciation				3b							
Retirements of buildings and machinery				3b							
Rental payments				3b							
Foreign content of materials consumed				3c							
Purchased services				3c							
Ratios:											
Specialization	1a							5b			
Coverage	1a							5b			

*Number of companies with shipments of more than \$100 thousand.

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Special Industry Machinery, Except Metalworking Machinery

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Description of Industries and Summary of Findings

This report shows 1992 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC code and title

3552	Textile Machinery
3553	Woodworking Machinery
3554	Paper Industries Machinery
3555	Printing Trades Machinery
3556	Food Products Machinery
3559	Special Industry Machinery, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 through 5a) with product statistics (table 6) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Establishment data were tabulated based on industry definitions included in the *1987 Standard Industrial Classification (SIC) Manual*¹. The 1987 edition represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. In addition to the 1987 SIC revision, changes were made to the product class (five-digit) and product code (seven-digit) categories. The product class and product code comparability between the 1992 and 1987 censuses is shown in appendix C. This appendix presents, in tabular form, the linkage from 1992 to 1987, and 1987 to 1992.

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

INDUSTRY 3552, TEXTILE MACHINERY

This industry is made up of establishments primarily engaged in manufacturing machinery for the textile industry. Also included in this industry are establishments primarily engaged in manufacturing parts, attachments, and accessories. Establishments primarily engaged in manufacturing industrial sewing machines are classified in industry 3559. Establishments primarily engaged in manufacturing household sewing machines are classified in industry 3639.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3552, Textile Machinery, had employment of 15.0 thousand. The employment figure was 4 percent below the 15.6 thousand reported in 1987.

The leading States in employment in 1992 were North Carolina, South Carolina, and Georgia, accounting for approximately 64 percent of the industry's employment. This represents a shift from 1987 when South Carolina, North Carolina, Georgia, and New York, were the leading States.

The total value of shipments for establishments classified in this industry was \$1.6 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3552 shipped \$1.3 billion of textile machinery products considered primary to the industry, \$15.2 million of secondary products, and had \$251.6 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 99 percent (specialization ratio). In 1987, the specialization ratio was 96 percent.

Establishments in this industry also accounted for 98 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 96 percent.

The products primary to industry 3552, no matter in what industry they were produced, appear in table 6a and aggregate to \$1.3 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the textile machinery industry amounted to \$644.4 million. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of the total value of shipments.

INDUSTRY 3553, WOODWORKING MACHINERY

This industry is made up of establishments primarily engaged in manufacturing machinery for sawmills, for making particleboard and similar products, and for otherwise working or producing wood products. Establishments primarily engaged in manufacturing handtools such as planes, axes, draw knives and handsaws are classified in industry group 342. Establishments primarily engaged in manufacturing portable power-driven handtools are classified in industry 3546.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3553, Woodworking Machinery, had employment of 7.2 thousand. The employment figure was 19 percent below the 8.9 thousand reported in 1987.

The leading States in employment in 1992 were Oregon, Tennessee, Mississippi, and Indiana, accounting for approximately 39 percent of the industry's employment. This represents a shift from 1987 when North Carolina, Ohio, Oregon, and Tennessee were the leading States.

The total value of shipments for establishments classified in this industry was \$894.6 million.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3553 shipped \$723.1 million of woodworking machinery products considered primary to the industry, \$35.1 million of secondary products, and had \$136.4 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 95 percent (specialization ratio). In 1987, the specialization ratio was 91 percent.

Establishments in this industry also accounted for 93 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 91 percent.

The products primary to industry 3553, no matter in what industry they were produced, appear in table 6a and aggregate to \$775.3 million. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the woodworking machinery industry amounted to \$439.5 million. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of the total value of shipments.

INDUSTRY 3554, PAPER INDUSTRIES MACHINERY

This industry is made up of establishments primarily engaged in manufacturing machinery for the pulp, paper, and paper product industries. Establishments primarily engaged in manufacturing mining trades machinery are classified in industry 3555.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3554, Paper Industries Machinery, had employment of 18.2 thousand. The employment figure was 6 percent above the 17.1 thousand reported in 1987.

The leading States in employment in 1992 were Wisconsin, Pennsylvania, Massachusetts, and New Jersey, accounting for approximately 55 percent of the industry's employment. This represents a shift from 1987 when Wisconsin, Pennsylvania, Massachusetts, and Ohio were the leading States.

The total value of shipments for establishments classified in this industry was \$2.5 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3554 shipped \$2.1 billion of paper industries machinery products considered primary to the industry, \$180.8 million of secondary products, and had \$264.0 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 92 percent (specialization ratio). In 1987, the specialization ratio was 90 percent.

Establishments in this industry also accounted for 93 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio also was 93 percent.

The products primary to industry 3554, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.2 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the paper industries machinery industry amounted to \$1.2 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of the total value of shipments.

INDUSTRY 3555, PRINTING TRADES MACHINERY

This industry is made up of establishments primarily engaged in manufacturing machinery and equipment used by the printing and book binding trades. Establishments primarily engaged in manufacturing textile printing machinery are classified in industry 3552.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3555, Printing Trades Machinery, had employment of 18.7 thousand. The employment figure was 25 percent below the 25.0 thousand reported in 1987. Compared with 1991, employment decreased 22 percent. The 1991 data are based on the Census Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The leading States in employment in 1992 were Ohio, Illinois, New Jersey, and Massachusetts, accounting for approximately 36 percent of the industry's employment. These same States were the leaders in 1987.

The total value of shipments for establishments classified in this industry was \$2.6 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3555 shipped \$2.2 billion of printing trades machinery products considered primary to the industry, \$123.9 million of secondary products, and had \$288.3 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 95 percent (specialization ratio). In 1987, the specialization ratio was 96 percent.

Establishments in this industry also accounted for 95 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 94 percent.

The products primary to industry 3555, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.3 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the printing trades machinery industry amounted to \$1.3 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of the total value of shipments.

INDUSTRY 3556, FOOD PRODUCTS MACHINERY

This industry is made up of establishments primarily engaged in manufacturing machinery for use by the food products and beverage manufacturing industries and similar machinery for use in manufacturing animal foods. Establishments primarily engaged in manufacturing food packaging machinery are classified in industry 3565. Establishments primarily engaged in manufacturing industrial refrigeration machinery are classified in industry group 358.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3556, Food Products Machinery, had employment of 18.8 thousand. The employment figure was 2 percent below the 19.2 thousand reported in 1987.

The leading States in employment in 1992 were Wisconsin, Illinois, California, and Ohio accounting for approximately 40 percent of the industry's employment. These same States were the leaders in 1987 when they accounted for 43 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$2.4 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3556 shipped \$1.9 billion of food products machinery considered primary to the industry, \$238.0 million of secondary products, and had \$247.9 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and

primary products shipped by establishments in this industry was 89 percent (specialization ratio). In 1987, the specialization ratio was 86 percent.

Establishments in this industry also accounted for 91 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio also was 91 percent.

The products primary to industry 3556, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.1 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the food products machinery industry amounted to \$1.0 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of the total value of shipments.

INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.

This industry is made up of establishments primarily engaged in manufacturing special industries machinery not elsewhere classified, such as smelting and refining equipment, cement making, clayworking, cotton ginning, glass making, incandescent lamp making, paint working, rubberworking, tobacco working, printed circuit board, semiconductor, shoe making, and stone working machinery, and industrial sewing machines and automotive maintenance machinery and equipment.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3559, Special Industry Machinery, N.E.C., had employment of 81.9 thousand. The employment figure was 2 percent below the 83.3 thousand reported in 1987.

The leading States in employment in 1992 were California, Ohio, Michigan, and Massachusetts, accounting for approximately 39 percent of the industry's employment. This represents a shift from 1987 when California, Ohio, New York, and Massachusetts accounted for approximately 39 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$11.3 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3559 shipped \$9.8 billion of special industry machinery not elsewhere classified products considered primary to the industry, \$591.5 million of secondary products, and had \$886.9 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 94 percent (specialization ratio). In 1987, the specialization ratio also was 94 percent.

Establishments in this industry also accounted for 93 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 91 percent.

The products primary to industry 3559, no matter in what industry they were produced, appear in table 6a and aggregate to \$10.5 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the special industry machinery not elsewhere classified industry amounted to \$5.1 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of the total value of shipments.

Table 1a. Historical Statistics for the Industry: 1992 and Earlier Years

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

Year ¹	All establishments ³			All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials ⁵ (million dollars)	Value of shipments (million dollars)	New capital expenditures ⁶ (million dollars)	End-of-year inventories ⁴ (million dollars)	Ratios	
	Companies ² (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization ⁷ (per cent)	Coverage ⁸ (per cent)
INDUSTRY 3552, TEXTILE MACHINERY															
1992 Census ---	480	506	158	15.0	424.5	9.6	19.8	218.6	908.1	644.4	1 565.2	39.5	388.7	99	98
1991 ASM -----	(NA)	(NA)	(NA)	14.9	437.1	10.1	20.9	238.7	776.8	621.8	1 395.8	32.9	357.7	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	16.0	452.7	11.0	22.7	246.4	814.9	687.3	1 505.1	46.6	370.0	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	16.4	428.7	11.5	23.9	245.2	889.0	710.7	1 561.0	37.4	383.8	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	17.1	409.9	11.7	24.3	239.8	837.7	672.5	1 487.4	40.6	366.8	(NA)	(NA)
1987 Census ---	475	506	172	15.6	352.4	10.6	22.2	206.9	712.1	547.1	1 240.7	33.2	318.9	96	96
1986 ASM -----	(NA)	(NA)	(NA)	15.8	331.7	10.7	21.6	195.3	669.3	478.4	1 132.2	22.1	311.1	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	16.2	316.9	10.9	21.5	184.9	543.0	451.0	1 019.8	29.2	269.0	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	17.7	340.1	11.9	23.4	195.3	627.8	485.6	1 089.3	24.3	306.7	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	17.5	324.3	12.0	23.4	188.4	534.5	454.7	1 038.2	35.4	267.0	(NA)	(NA)
1982 Census ---	511	551	197	19.4	322.9	12.8	23.9	184.5	641.6	424.1	1 059.0	46.1	298.7	96	96
1981 ASM -----	(NA)	(NA)	(NA)	22.9	366.5	15.7	30.8	214.6	776.7	472.1	1 245.0	38.4	279.9	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	24.3	352.2	16.8	33.7	210.7	715.3	477.6	1 170.5	33.0	262.6	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	24.1	323.4	16.8	32.7	195.2	656.8	413.6	1 055.2	33.2	240.2	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	25.0	320.4	16.8	32.9	178.5	559.5	428.0	996.1	50.1	240.3	(NA)	(NA)
1977 Census ---	599	638	217	25.9	300.8	18.3	36.3	185.3	539.4	388.9	950.0	32.2	233.5	93	94
INDUSTRY 3553, WOODWORKING MACHINERY															
1992 Census ---	277	289	90	7.2	206.1	4.7	9.5	109.8	458.8	439.5	894.6	19.5	158.1	95	93
1991 ASM -----	(NA)	(NA)	(NA)	6.2	184.7	3.9	8.1	90.3	420.3	368.9	811.4	7.2	114.4	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	7.8	226.2	5.4	10.6	119.2	477.4	439.8	936.6	14.2	143.4	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	9.8	258.5	6.4	12.8	130.6	590.4	563.5	1 141.4	18.5	179.3	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	8.9	208.2	5.8	11.3	114.8	451.5	469.7	921.1	12.5	155.5	(NA)	(NA)
1987 Census ---	280	292	97	8.9	205.3	5.8	11.9	115.7	464.3	423.7	884.3	17.0	161.3	91	91
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY															
1992 Census ---	298	333	153	18.2	651.8	10.2	21.3	314.3	1 273.8	1 209.8	2 524.2	65.4	527.7	92	93
1991 ASM -----	(NA)	(NA)	(NA)	17.8	606.6	9.6	20.8	308.4	987.8	1 200.0	2 206.3	62.6	529.8	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	20.3	648.3	12.2	26.3	346.9	1 118.7	1 591.2	2 770.4	72.0	549.4	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	19.9	624.8	11.7	24.7	339.4	1 208.8	1 410.1	2 579.8	84.6	598.8	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	17.3	538.2	10.4	22.2	281.4	1 022.5	1 064.6	2 012.1	60.0	503.6	(NA)	(NA)
1987 Census ---	256	278	127	17.1	502.1	9.6	19.1	239.0	1 027.0	868.8	1 867.1	45.6	405.2	90	93
1986 ASM -----	(NA)	(NA)	(NA)	15.4	448.9	8.7	17.4	215.9	706.0	860.6	1 630.7	37.8	341.2	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	15.6	442.6	8.9	17.6	221.4	792.9	654.3	1 408.2	40.6	382.8	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	15.4	392.8	8.5	16.9	190.8	731.7	566.2	1 274.3	22.6	331.2	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	14.1	352.0	7.1	13.7	166.8	596.4	497.5	1 150.8	15.7	296.6	(NA)	(NA)
1982 Census ---	231	253	126	17.8	405.8	10.0	20.2	201.5	762.6	622.5	1 387.4	29.4	360.3	89	93
1981 ASM -----	(NA)	(NA)	(NA)	19.1	404.4	10.8	21.6	203.8	685.3	674.0	1 382.3	45.6	357.0	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	19.6	385.0	11.3	22.7	197.7	651.2	671.6	1 322.8	55.6	377.8	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	19.5	349.7	11.1	22.0	181.3	641.1	601.6	1 207.6	33.2	373.6	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	17.2	285.5	10.1	19.5	142.9	567.7	438.8	938.9	26.3	284.7	(NA)	(NA)
1977 Census ---	193	213	103	16.4	247.5	9.3	18.8	123.8	464.9	357.8	826.9	17.2	220.2	84	90
INDUSTRY 3555, PRINTING TRADES MACHINERY															
1992 Census ---	461	506	180	18.7	655.9	10.3	22.0	300.3	1 266.4	1 267.6	2 591.9	59.6	729.6	95	95
1991 ASM -----	(NA)	(NA)	(NA)	24.0	799.9	12.1	25.5	338.9	1 850.1	1 706.2	3 538.1	74.7	891.7	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	25.0	821.2	12.9	27.7	362.0	1 808.2	1 752.8	3 538.2	89.6	937.1	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	26.4	833.9	13.6	28.6	365.1	1 948.7	1 820.4	3 691.9	99.5	898.6	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	25.6	806.1	13.1	27.0	345.8	1 739.8	1 600.1	3 313.1	86.3	830.3	(NA)	(NA)
1987 Census ---	408	438	194	25.0	751.6	12.1	25.3	306.1	1 606.6	1 315.1	2 857.8	114.2	770.3	96	94
INDUSTRY 3556, FOOD PRODUCTS MACHINERY															
1992 Census ---	495	518	228	18.8	605.5	11.1	22.2	289.9	1 392.1	1 008.4	2 407.2	46.8	482.0	89	91
1991 ASM -----	(NA)	(NA)	(NA)	17.9	570.5	10.5	21.0	266.7	1 183.9	996.6	2 193.1	42.1	467.9	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	19.0	566.3	11.2	22.0	265.6	1 266.3	1 008.5	2 260.9	45.8	475.6	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	19.0	531.5	11.1	22.0	252.9	1 253.2	886.4	2 125.9	63.6	457.5	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	20.0	525.7	12.2	24.1	274.9	1 249.0	866.8	2 091.8	33.7	498.0	(NA)	(NA)
1987 Census ---	483	512	219	19.2	490.9	11.8	22.8	258.0	1 140.5	832.7	1 971.4	47.4	457.7	86	91
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.															
1992 Census ---	2 469	2 557	814	81.9	2 903.9	44.0	89.8	1 168.8	6 226.2	5 146.9	11 297.2	348.1	2 456.5	94	93
1991 ASM -----	(NA)	(NA)	(NA)	83.0	2 778.4	45.7	91.9	1 225.2	5 657.4	4 882.9	10 542.5	285.6	2 284.5	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	84.2	2 709.8	47.3	95.2	1 201.3	5 517.0	4 724.2	10 247.1	311.7	2 292.8	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	83.5	2 580.7	47.9	97.3	1 178.7	5 450.7	4 480.9	9 853.8	297.7	2 201.8	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	84.6	2 444.8	47.7	95.7	1 114.8	5 414.9	4 066.0	9 338.2	189.1	2 245.1	(NA)	(NA)
1987 Census ---	2 438	2 531	817	83.3	2 285.6	46.3	92.8	1 057.5	4 704.0	3 592.9	8 274.7	217.3	2 023.2	94	91

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1977, see 1977 Census of Manufactures, vol. II, table 1 of the industry chapter.

²For the Census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Beginning in 1982, all respondents were requested to report their inventories at cost or market prior to adjustment to LIFO cost. This is a change from prior years when respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, 1982 data for inventories and value added by manufacture are not comparable to prior-year data.

⁵Cost of materials is the sum of five components: the cost of (1) parts used in the manufacture of finished goods (materials, parts, containers, and supplies incorporated into products or otherwise directly consumed in the process); (2) purchased items later resold without further manufacture; (3) fuels; (4) electricity; and (5) commissions or fees to outside parties for contract manufacturing. A separate cost for each of the five components is shown in table 3a. Detailed data on materials consumed by type, are shown in table 7.

⁶Detailed data on new machinery and equipment expenditures are provided in table 3c.

⁷Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in the industry.

⁸Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years

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

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3552, TEXTILE MACHINERY									
1992 Census	28 300	64	2 062	11.04	41	68	60 540	47	45.86
1991 ASM	29 336	68	2 069	11.42	45	76	52 134	56	37.17
1990 ASM	28 294	69	2 064	10.85	46	76	50 931	56	35.90
1989 ASM	26 140	70	2 078	10.26	46	73	54 207	48	37.20
1988 ASM	23 971	68	2 077	9.87	45	73	48 988	49	34.47
1987 Census	22 590	68	2 094	9.32	44	72	45 647	49	32.08
1986 ASM	20 994	68	2 019	9.04	42	72	42 361	50	30.99
1985 ASM	19 562	67	1 972	8.60	44	75	33 519	58	25.26
1984 ASM	19 215	67	1 966	8.35	45	76	35 469	54	26.83
1983 ASM	18 531	69	1 950	8.05	44	75	30 543	61	22.84
1982 Census	16 644	66	1 867	7.72	40	71	33 072	50	26.85
1981 ASM	16 004	69	1 962	6.97	38	67	33 917	47	25.22
1980 ASM	14 494	69	2 006	6.25	41	71	29 436	49	21.23
1979 ASM	13 419	70	1 946	5.97	39	70	27 253	49	20.09
1978 ASM	12 816	67	1 958	5.43	43	75	22 380	57	17.01
1977 Census	11 614	71	1 984	5.10	41	73	20 826	56	14.86
INDUSTRY 3553, WOODWORKING MACHINERY									
1992 Census	28 625	65	2 021	11.56	49	72	63 722	45	48.29
1991 ASM	29 790	63	2 077	11.15	45	68	67 790	44	51.89
1990 ASM	29 000	69	1 963	11.25	47	71	61 205	47	45.04
1989 ASM	26 378	65	2 000	10.20	49	72	60 245	44	46.13
1988 ASM	23 393	65	1 948	10.16	51	74	50 730	46	39.96
1987 Census	23 067	65	2 052	9.72	48	71	52 169	44	39.02
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY									
1992 Census	35 813	56	2 088	14.76	48	74	69 989	51	59.80
1991 ASM	34 079	54	2 167	14.83	54	82	55 494	61	47.49
1990 ASM	31 936	60	2 156	13.19	57	81	55 108	58	42.54
1989 ASM	31 397	59	2 111	13.74	55	79	60 744	52	48.84
1988 ASM	31 110	60	2 135	12.68	53	80	59 104	53	46.06
1987 Census	29 363	56	1 990	12.51	47	73	60 058	49	53.77
1986 ASM	29 149	56	2 000	12.41	53	80	45 844	64	40.57
1985 ASM	28 372	57	1 978	12.58	46	78	50 827	56	45.05
1984 ASM	25 506	55	1 988	11.29	44	75	47 513	54	43.30
1983 ASM	24 965	50	1 930	12.18	43	74	42 298	59	43.53
1982 Census	22 798	56	2 020	9.98	45	74	42 843	53	37.75
1981 ASM	21 173	57	2 000	9.44	49	78	35 880	59	31.73
1980 ASM	19 643	58	2 009	8.71	51	80	33 224	59	28.69
1979 ASM	17 933	57	1 982	8.24	50	79	32 877	55	29.14
1978 ASM	16 599	59	1 931	7.33	47	77	33 006	50	29.11
1977 Census	15 091	57	2 022	6.59	43	73	28 348	53	24.73
INDUSTRY 3555, PRINTING TRADES MACHINERY									
1992 Census	35 075	55	2 136	13.65	49	74	67 722	52	57.56
1991 ASM	33 329	50	2 107	13.29	48	71	77 088	43	72.55
1990 ASM	32 848	52	2 147	13.07	50	73	72 328	45	65.28
1989 ASM	31 587	52	2 103	12.77	49	72	73 814	43	68.14
1988 ASM	31 488	51	2 061	12.81	48	73	67 961	46	64.44
1987 Census	30 064	48	2 091	12.10	46	72	64 264	47	63.50
INDUSTRY 3556, FOOD PRODUCTS MACHINERY									
1992 Census	32 207	59	2 000	13.06	42	67	74 048	43	62.71
1991 ASM	31 872	59	2 000	12.70	45	71	66 140	48	56.38
1990 ASM	29 805	59	1 964	12.07	45	70	66 647	45	57.56
1989 ASM	27 974	58	1 982	11.50	42	67	65 958	42	56.96
1988 ASM	26 285	61	1 975	11.41	41	67	62 450	42	51.83
1987 Census	25 568	61	1 932	11.32	42	67	59 401	43	50.02
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.									
1992 Census	35 457	54	2 041	13.02	46	71	76 022	47	69.33
1991 ASM	33 475	55	2 011	13.33	46	73	68 161	49	61.56
1990 ASM	32 183	56	2 013	12.62	46	73	65 523	49	57.95
1989 ASM	30 907	57	2 031	12.11	45	72	65 278	47	56.02
1988 ASM	28 898	56	2 006	11.65	44	70	64 006	45	56.58
1987 Census	27 438	56	2 004	11.40	43	71	56 471	49	50.69

Note: For qualifications of data, see footnotes on table 1a.

Table 2. Industry Statistics for Selected States: 1992 and 1987

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)	
	E1	Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)							Wages (million dollars)
INDUSTRY 3552, TEXTILE MACHINERY														
United States -----	-	506	158	15.0	424.5	9.6	19.8	218.6	908.1	644.4	1 565.2	39.5	15.6	712.1
California -----	E1	18	5	.3	6.5	.2	.4	3.6	14.2	9.8	22.7	.3	(NA)	(NA)
Colorado -----	-	2	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut -----	-	8	5	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	21.5
Georgia -----	-	55	19	1.2	32.2	.8	1.8	17.9	56.5	46.1	104.5	1.7	1.2	55.9
Illinois -----	-	8	2	.2	6.7	.1	.2	3.1	11.7	6.6	18.6	(D)	E	(D)
Kentucky -----	-	7	2	.2	4.3	.1	.3	2.6	9.9	3.2	13.1	.2	(NA)	(NA)
Massachusetts -----	E5	21	6	.4	13.5	.3	.6	7.0	17.7	17.9	36.2	1.4	F	(D)
Missouri -----	E1	6	3	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	(NA)
New Jersey -----	E1	25	6	.5	11.6	.2	.4	5.4	26.6	17.2	43.7	.3	.4	23.3
New York -----	E1	33	9	.8	27.1	.5	1.1	12.9	53.7	40.3	93.1	1.7	1.0	50.5
North Carolina -----	-	124	49	4.4	124.9	2.8	5.8	61.9	299.8	215.8	517.5	15.3	(NA)	(D)
Ohio -----	-	8	3	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania -----	-	23	7	.5	14.0	.3	.6	7.0	27.4	19.8	47.0	1.6	.6	22.6
Rhode Island -----	E1	14	-	.1	2.5	.1	.1	1.4	5.1	2.9	7.7	.1	(NA)	(D)
South Carolina -----	-	68	28	3.9	111.0	2.7	5.8	63.2	220.2	153.8	371.6	8.4	4.8	201.6
Tennessee -----	-	14	5	.4	14.2	.3	.6	7.1	24.8	21.3	45.8	1.0	E	(D)
INDUSTRY 3553, WOODWORKING MACHINERY														
United States -----	E1	289	90	7.2	206.1	4.7	9.5	109.8	458.8	439.5	894.6	19.5	8.9	464.3
Arizona -----	-	3	2	.1	2.2	.1	.1	1.3	3.9	2.9	6.8	.1	(NA)	(NA)
Arkansas -----	E1	5	4	.2	6.1	.1	.3	3.2	12.3	9.9	21.9	.6	(NA)	(D)
California -----	E1	26	8	.4	15.0	.3	.7	7.8	28.2	24.7	53.0	1.1	E	(D)
Illinois -----	E4	13	4	.3	6.7	.1	.3	2.7	14.0	7.5	21.5	(D)	E	(D)
Indiana -----	-	11	6	.5	15.3	.3	.5	6.4	34.5	19.5	54.3	1.5	E	(D)
Louisiana -----	E6	4	3	.1	3.0	.1	.2	1.7	6.1	4.8	10.8	.3	(NA)	(NA)
Michigan -----	E1	16	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6	E	(D)
Minnesota -----	-	5	4	.3	9.2	.2	.3	4.2	14.0	14.3	28.8	.1	E	(D)
Mississippi -----	E1	8	4	.5	15.2	.4	.8	9.8	41.0	36.0	78.0	(D)	F	(D)
North Carolina -----	-	21	3	.5	12.5	.3	.7	7.4	39.1	41.6	80.8	.5	F	(D)
Ohio -----	-	7	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.8	41.2
Oregon -----	E1	33	16	1.1	32.7	.7	1.3	17.3	61.9	58.0	119.0	2.9	1.3	68.5
Pennsylvania -----	-	10	4	.2	4.2	.1	.2	2.5	9.2	4.0	13.8	.1	.4	14.7
Tennessee -----	-	6	5	.7	17.1	.5	.9	9.3	41.7	91.0	129.0	2.5	.9	43.4
Vermont -----	-	3	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Washington -----	-	13	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	.4	31.4
Wisconsin -----	-	15	6	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY														
United States -----	-	333	153	18.2	651.8	10.2	21.3	314.3	1 273.8	1 209.8	2 524.2	65.4	17.1	1 027.0
Alabama -----	E2	13	5	.3	7.7	.2	.4	4.3	14.4	12.9	27.4	.4	E	(D)
California -----	E2	18	1	.2	9.0	.1	.3	3.8	18.5	12.5	31.3	.2	E	(D)
Colorado -----	-	1	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut -----	-	4	3	.2	7.1	.1	.2	3.1	15.1	6.5	20.8	(D)	(NA)	(D)
Florida -----	-	7	3	.2	7.6	.1	.4	3.5	14.4	14.3	27.7	(D)	.2	12.9
Georgia -----	E3	9	4	.3	11.9	.2	.4	4.7	20.7	33.2	56.8	1.0	(NA)	(NA)
Illinois -----	-	11	3	.2	7.1	.1	.2	2.6	8.2	12.0	20.3	.2	(NA)	(D)
Indiana -----	-	9	4	.3	9.4	.2	.4	5.3	18.5	13.6	32.1	(D)	(NA)	(D)
Kansas -----	-	3	3	.1	3.8	.1	.1	1.8	5.2	8.2	13.5	(D)	(NA)	(NA)
Louisiana -----	-	3	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maine -----	E3	4	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland -----	-	7	3	.4	18.5	.3	.6	10.1	32.7	38.5	70.4	.8	.3	25.9
Massachusetts -----	-	28	13	1.4	50.8	.7	1.6	19.8	95.1	83.0	185.3	4.4	G	(D)
Michigan -----	E1	11	5	.2	4.9	.1	.3	2.6	12.2	14.5	25.3	.5	E	(D)
Mississippi -----	-	2	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri -----	-	6	3	.2	5.8	.1	.2	3.1	9.6	6.6	17.8	(D)	(NA)	(NA)
New Hampshire -----	E1	10	7	.9	32.4	.6	1.1	20.7	35.9	61.3	99.3	2.7	.8	31.6
New Jersey -----	-	14	6	1.1	50.4	.6	1.3	23.5	97.5	169.6	262.6	6.1	1.0	91.0
New York -----	-	30	11	1.0	34.8	.6	1.2	17.1	62.8	50.3	115.2	2.3	G	(D)
North Carolina -----	-	6	4	.4	15.3	.2	.3	4.4	48.7	28.5	80.0	.8	(NA)	(D)
Ohio -----	E1	20	11	1.1	39.0	.6	1.3	18.9	59.3	90.7	153.0	2.5	1.1	75.2
Oregon -----	-	7	4	.4	11.0	.2	.4	5.9	21.9	13.6	36.1	.3	.3	16.8
Pennsylvania -----	-	20	9	1.4	50.0	.7	1.8	23.5	86.3	55.6	144.0	2.8	2.2	125.7
Texas -----	-	9	4	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Washington -----	-	14	6	.6	20.5	.4	.7	11.0	38.4	52.3	92.6	.3	.5	27.6
Wisconsin -----	-	40	25	6.0	219.6	3.4	6.7	107.2	481.1	335.3	831.8	31.9	5.4	342.9

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	E ¹	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3555, PRINTING TRADES MACHINERY														
United States	—	506	180	18.7	655.9	10.3	22.0	300.3	1 266.4	1 267.6	2 591.9	59.6	25.0	1 606.6
Arizona	—	3	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	5.4
California	E1	49	13	1.2	42.5	.6	1.3	16.0	98.1	51.7	149.6	2.6	1.3	90.1
Connecticut	—	13	6	.5	20.2	.2	.4	6.6	56.7	35.8	68.5	.5	F	(D)
Florida	—	19	4	.4	12.8	.2	.4	4.5	24.5	20.5	43.6	(D)	.4	14.1
Georgia	E5	12	2	.1	4.2	.1	.2	2.3	8.6	6.5	15.1	.5	(NA)	(NA)
Illinois	E1	59	22	1.8	63.0	1.1	2.4	30.1	126.4	88.1	215.9	3.4	G	(D)
Indiana	—	9	5	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	E	(D)
Iowa	—	4	2	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Kansas	—	8	4	.6	15.2	.3	.8	9.4	26.8	32.0	59.4	.8	F	37.5
Massachusetts	—	25	10	1.2	43.3	.6	1.3	18.2	85.9	70.3	161.6	4.2	(NA)	(D)
Michigan	—	12	6	.6	23.0	.4	.8	11.4	28.6	39.9	69.0	8.1	.5	30.4
Minnesota	E4	15	6	.4	14.5	.2	.3	4.5	33.4	16.5	49.7	1.4	E	(D)
Missouri	—	18	7	.8	24.8	.5	1.0	12.0	51.4	39.7	89.9	2.8	.6	31.7
New Hampshire	—	3	2	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
New Jersey	—	34	14	1.6	61.1	.6	1.3	21.4	56.0	178.3	293.3	4.4	2.8	135.5
New York	E1	50	16	1.0	28.8	.6	1.5	15.4	61.2	44.9	105.6	1.3	G	(D)
North Carolina	—	9	4	.3	7.7	.1	.3	3.0	25.9	12.4	38.0	.9	E	(D)
Ohio	—	35	14	2.1	77.2	1.1	2.2	32.1	174.5	120.1	292.6	5.3	2.0	120.1
Oregon	E2	5	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	(NA)	(NA)
Pennsylvania	—	23	8	1.1	36.9	.7	1.3	18.3	65.2	114.7	185.9	8.5	1.4	81.1
Texas	E1	21	6	.6	19.6	.4	.8	10.5	31.3	24.3	58.3	(D)	.8	58.2
Virginia	—	8	4	.3	11.1	.2	.4	6.5	22.7	16.8	38.6	(D)	E	(D)
Washington	—	7	3	.1	4.8	.1	.2	2.6	8.7	10.2	19.0	(D)	(NA)	(D)
Wisconsin	—	20	11	1.1	39.0	.7	1.4	19.5	74.2	47.4	120.1	2.9	1.0	59.6
INDUSTRY 3556, FOOD PRODUCTS MACHINERY														
United States	—	518	228	18.8	605.5	11.1	22.2	289.9	1 392.1	1 008.4	2 407.2	46.8	19.2	1 140.5
Alabama	E9	3	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	—	77	32	1.9	59.5	1.1	2.5	27.8	102.7	85.9	191.5	4.1	2.1	95.4
Colorado	—	4	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Connecticut	—	2	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	20.8
Florida	E2	15	6	.6	17.0	.2	.4	4.4	38.5	13.9	53.0	2.6	.6	28.8
Georgia	—	23	11	.9	28.2	.5	1.1	13.2	78.5	60.2	139.0	1.5	1.3	86.9
Illinois	—	47	20	2.0	68.3	1.3	2.3	36.8	163.4	128.6	290.5	6.7	1.8	132.6
Indiana	—	9	5	.5	25.3	.3	.7	12.8	63.3	41.7	105.0	1.6	.8	55.4
Iowa	E1	15	10	.8	28.7	.5	.9	12.6	67.3	42.0	108.9	(D)	G	(D)
Kansas	—	12	6	.6	18.2	.3	.5	5.9	34.9	32.6	67.0	1.2	.3	17.1
Kentucky	E1	7	4	.4	13.4	.2	.3	3.8	22.4	31.7	56.5	(D)	E	(D)
Louisiana	E1	6	3	.2	4.1	.1	.2	2.8	8.8	4.6	13.2	.3	E	(D)
Maryland	—	5	3	.2	4.6	.1	.2	2.5	8.5	7.4	16.3	(D)	(NA)	(NA)
Massachusetts	—	9	2	.1	3.0	.1	.1	1.2	13.3	10.1	23.5	.7	(NA)	(NA)
Michigan	—	13	6	.5	16.3	.3	.6	7.1	35.9	29.1	69.0	(D)	.6	16.6
Minnesota	E1	23	9	.6	19.6	.4	.8	10.6	37.8	27.3	62.4	1.0	.4	17.2
Mississippi	—	3	3	.1	2.8	.1	.2	1.5	8.0	7.3	15.2	(D)	(NA)	(NA)
Missouri	—	9	3	.3	8.7	.2	.4	4.8	17.9	14.8	31.0	(D)	.4	14.8
Nebraska	—	4	3	.1	4.3	.1	.2	2.1	9.8	8.9	18.7	.3	(NA)	(NA)
New Jersey	—	18	4	.3	9.4	.1	.3	4.0	22.4	16.1	38.0	(D)	.2	9.4
New York	E1	30	9	.7	21.0	.4	.8	11.5	42.6	25.2	68.0	1.6	.8	34.0
North Carolina	—	11	7	.8	24.7	.5	1.0	11.1	62.0	52.8	112.6	1.5	F	(D)
Ohio	—	31	15	1.5	53.0	1.0	1.9	27.3	172.5	79.1	253.8	6.2	2.3	235.3
Oklahoma	—	5	3	.1	2.9	.1	.1	.9	5.5	4.3	10.0	.1	(NA)	(NA)
Oregon	E2	13	3	.2	5.2	.1	.2	2.7	11.7	6.5	17.1	(D)	.2	5.5
Pennsylvania	—	20	11	.5	16.4	.3	.7	7.8	37.4	29.0	69.6	.8	.3	15.7
Texas	E3	14	6	.4	9.8	.2	.4	4.0	18.6	15.3	34.4	(D)	F	(D)
Virginia	—	13	7	.6	18.8	.4	.7	8.5	50.2	30.3	80.5	1.0	.5	20.2
Washington	E1	14	6	.3	11.1	.2	.4	6.3	23.9	17.9	42.4	.4	.3	14.2
Wisconsin	—	34	18	2.1	68.4	1.2	2.5	35.6	106.7	111.3	219.6	5.5	2.0	94.5
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.														
United States	—	2 557	814	81.9	2 903.9	44.0	89.8	1 168.8	6 226.2	5 146.9	11 297.2	348.1	83.3	4 704.0
Alabama	E2	18	3	.6	17.4	.4	.7	7.1	26.3	37.3	61.1	1.4	F	(D)
Arizona	E1	28	14	1.0	31.8	.5	1.0	13.2	80.0	71.9	148.2	3.2	.7	36.5
Arkansas	—	16	5	.8	21.1	.4	.8	9.1	42.4	63.3	108.1	1.6	.8	41.3
California	E1	320	101	12.5	574.5	5.3	11.2	145.7	1 377.5	845.7	2 193.4	109.6	11.2	720.2
Colorado	—	32	5	.5	13.1	.3	.6	6.1	23.0	23.4	44.7	1.7	E	(D)
Connecticut	—	65	24	2.8	109.1	1.4	2.9	45.2	231.4	173.1	401.7	7.3	4.3	285.8
Delaware	—	4	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Florida	—	69	16	1.3	39.5	.7	1.6	15.5	89.5	69.7	156.1	2.6	1.1	45.5
Georgia	E1	51	15	1.6	47.4	1.1	2.2	23.2	72.7	92.3	161.4	7.7	1.6	73.6
Idaho	—	7	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	E1	127	47	4.5	148.3	2.7	5.2	72.8	322.9	239.7	563.1	10.8	(NA)	(D)
Indiana	—	79	22	1.8	61.5	1.2	2.7	33.7	113.8	120.2	217.0	5.6	2.7	129.0
Iowa	E1	36	11	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	5.7	F	(D)
Kansas	—	22	10	.9	28.2	.5	1.1	13.1	75.6	42.6	120.2	2.5	.9	60.5
Kentucky	E2	24	8	.6	15.4	.4	.7	7.3	26.3	29.3	54.5	(D)	.8	41.9

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	E1	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.—Con.														
Louisiana	—	13	4	.5	14.8	.3	.6	7.4	23.4	21.8	49.8	.9	E	(D)
Maine	—	9	3	.2	6.3	.1	.1	1.6	16.5	22.7	38.9	.1	E	(D)
Maryland	—	19	7	.7	22.5	.4	.7	8.9	57.1	34.3	92.0	(D)	F	(D)
Massachusetts	—	117	52	5.7	227.4	2.5	5.2	83.0	480.1	367.3	855.5	30.4	6.3	351.1
Michigan	—	188	71	5.9	217.9	3.5	7.5	110.6	403.9	462.8	872.6	11.4	5.3	289.8
Minnesota	—	59	20	1.9	56.2	.9	2.1	22.9	111.2	87.3	193.4	4.9	1.1	59.7
Mississippi	E1	12	5	.6	13.1	.4	.9	8.2	43.3	24.1	65.9	(D)	E	(D)
Missouri	—	41	10	1.0	34.3	.5	1.0	12.1	92.7	51.0	143.8	3.2	.8	65.2
Nebraska	—	10	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3
New Hampshire	E4	15	4	.4	11.5	.2	.3	4.2	20.9	15.0	35.9	(D)	F	(D)
New Jersey	—	141	43	3.3	122.7	1.7	3.5	51.1	225.7	193.4	431.8	5.9	5.1	266.5
New York	—	137	31	3.8	124.2	2.2	4.0	61.1	316.8	243.5	545.0	16.8	6.5	375.3
North Carolina	E1	69	26	1.4	38.9	.9	1.7	19.6	92.6	69.6	161.2	4.1	G	(D)
Ohio	E1	210	80	8.2	275.0	4.5	9.2	122.1	567.2	570.0	1 118.3	27.4	8.4	497.8
Oklahoma	—	40	15	2.0	62.1	1.0	2.0	23.2	130.1	85.5	212.7	25.5	1.3	76.3
Oregon	E2	32	6	.3	9.7	.1	.3	3.0	17.5	15.4	31.7	2.1	.4	22.0
Pennsylvania	—	134	46	4.8	158.8	2.5	5.3	66.3	302.0	322.9	622.2	12.6	4.7	217.2
Rhode Island	E3	26	4	.4	12.9	.2	.4	4.0	27.3	16.8	43.1	1.8	.5	18.9
South Carolina	E2	33	8	.8	27.5	.5	1.0	11.6	49.8	52.5	101.2	2.1	.7	30.2
Tennessee	E1	38	12	.9	26.8	.6	1.1	12.1	77.3	70.8	148.0	2.8	1.3	67.0
Texas	E1	137	32	3.5	105.3	2.2	4.4	45.6	228.9	196.2	423.0	7.7	1.9	85.5
Utah	—	9	3	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Vermont	—	9	3	.2	8.7	.1	.2	2.0	15.2	14.9	31.9	(D)	(NA)	(D)
Virginia	E1	25	10	.9	26.3	.5	1.1	13.5	55.1	39.4	96.1	1.5	.8	60.0
Washington	E1	37	8	1.4	46.7	.8	1.6	21.4	75.6	81.5	160.7	3.4	1.2	64.3
Wisconsin	E2	66	22	1.8	52.1	1.0	1.9	24.6	104.3	102.9	209.1	4.4	1.6	77.4

Note: For qualifications of data, see footnotes on table 1a.

¹Payroll and sales data for some 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 the items shown 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 for those States where estimated value of shipments data based on administrative-record data account for 10 percent or more of figure shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Statistics for some producing States have been withheld to avoid disclosing data for individual companies. However, for States with 100 employees or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: 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.

Table 3a. Summary Statistics for the Industry: 1992

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

Item	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Food products machinery (SIC 3556)	Special industry machinery, n.e.c. (SIC 3559)
Companies	480	277	298	461	495	2 469
All establishments	506	289	333	506	518	2 557
With 1 to 19 employees	348	199	180	326	290	1 743
With 20 to 99 employees	133	75	109	139	180	625
With 100 employees or more	25	15	44	41	48	189
Employment and labor costs:						
Employees	15.0	7.2	18.2	18.7	18.8	81.9
Compensation, total	525.1	261.2	815.0	808.7	757.2	3 587.2
Annual payroll	424.5	206.1	651.8	655.9	605.5	2 903.9
Fringe benefits	100.5	55.0	163.2	152.8	151.7	683.3
Social Security and other legally required payments	43.7	23.1	64.3	60.1	55.0	267.8
Employer voluntary payments	56.8	31.9	98.9	92.7	96.7	415.5
Production workers:						
Average for year	9.6	4.7	10.2	10.3	11.1	44.0
March	9.6	4.6	10.2	10.8	11.1	44.1
May	9.6	4.7	10.1	10.5	11.1	44.2
August	9.6	4.8	10.3	10.1	11.2	44.4
November	9.5	4.7	10.2	10.0	11.0	43.5
Hours	19.8	9.5	21.3	22.0	22.2	89.8
Wages	218.6	109.8	314.3	300.3	289.9	1 168.8
Cost of materials ¹	644.4	439.5	1 209.8	1 267.6	1 008.4	5 146.9
Materials, parts, containers, etc., consumed ²	509.1	334.0	968.1	1 078.7	834.3	4 299.3
Resales	93.2	86.6	126.1	125.7	116.3	383.2
Fuels	4.0	1.9	6.7	4.3	5.3	22.9
Purchased electricity	16.5	7.6	16.6	16.4	12.8	83.5
Contract work	21.6	9.4	92.4	42.5	39.6	357.9
Quantity of electric energy used for heat and power:						
Purchased	292.6	132.6	263.6	255.0	209.4	1 193.8
Generated less sold	—	—	—	—	—	(D)
Total value of shipments	1 565.2	894.6	2 524.2	2 591.9	2 407.2	11 297.2
Value added	908.1	458.8	1 273.8	1 266.4	1 392.1	6 226.2

See footnotes at end of table.

Table 3a. Summary Statistics for the Industry: 1992—Con.

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

Item	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Food products machinery (SIC 3556)	Special industry machinery, n.e.c. (SIC 3559)
Inventories by stage of fabrication:						
Beginning of 1992.....mil dol..	381.4	151.9	564.4	825.7	479.9	2 348.7
Finished goods.....mil dol..	129.9	62.9	139.5	143.7	149.2	577.4
Work in process.....mil dol..	119.1	51.6	269.8	360.8	141.8	965.5
Materials and supplies.....mil dol..	132.3	37.3	155.0	321.2	188.9	805.8
End of 1992.....mil dol..	388.7	158.1	527.7	729.6	482.0	2 456.5
Finished goods.....mil dol..	111.9	63.8	138.3	166.4	143.1	590.3
Work in process.....mil dol..	124.4	54.5	230.6	280.1	141.1	1 028.4
Materials and supplies.....mil dol..	152.3	39.8	158.8	283.0	197.8	837.8

Note: For qualifications of data, see footnotes on table 1a.

¹Data on purchased services for the repair of buildings and machinery and for communication services are not included in cost of materials, etc., but are shown in table 3c.

²Data on materials consumed by type are shown in table 7. Data on amount purchased or transferred from foreign sources are shown in table 3c.

Table 3b. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation, and Rental Payments: 1992

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

Item	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Food products machinery (SIC 3556)	Special industry machinery, n.e.c. (SIC 3559)
Gross book value of depreciable assets:						
Total:						
Beginning of year.....	465.7	225.4	771.3	916.1	594.0	2 904.4
New capital expenditures ¹	39.5	19.5	65.4	59.6	46.8	348.1
Used capital expenditures.....	3.1	1.5	5.1	4.0	3.3	24.8
Retirements.....	17.2	5.7	17.2	27.2	15.9	156.2
End of year.....	491.0	240.7	824.7	952.5	628.2	3 121.1
Buildings and other structures:						
Beginning of year.....	120.4	57.5	217.0	242.6	181.7	866.0
New capital expenditures.....	6.1	3.1	14.3	7.7	8.1	88.2
Used capital expenditures.....	.3	.1	1.1	.8	.5	4.9
Retirements.....	1.3	.2	1.5	2.3	1.6	25.5
End of year.....	125.5	60.4	230.9	248.8	188.7	933.5
Machinery and equipment:						
Beginning of year.....	345.3	167.9	554.3	673.5	412.2	2 038.4
New capital expenditures ¹	33.4	16.4	51.1	52.0	38.7	259.9
Used capital expenditures.....	2.7	1.5	4.0	3.2	2.8	19.9
Retirements.....	15.9	5.5	15.6	24.9	14.3	130.7
End of year.....	365.5	180.3	593.8	703.7	439.4	2 187.6
Depreciation charges during 1992:						
Total.....	35.5	16.0	75.0	62.9	41.2	214.7
Buildings and other structures.....	5.3	2.5	13.2	9.1	7.3	44.4
Machinery and equipment.....	30.2	13.4	61.8	53.9	33.9	170.2
Rental payments:						
Total.....	20.3	13.2	27.1	37.4	26.5	173.7
Buildings and other structures.....	12.5	8.9	14.9	24.7	16.3	101.5
Machinery and equipment.....	7.8	4.3	12.2	12.8	10.3	72.1

¹Data on new machinery and equipment expenditures by type are provided in table 3c.

Table 3c. Supplemental Industry Statistics Based on Sample Estimates: 1992

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

Item	Textile machinery (SIC 3552)		Woodworking machinery (SIC 3553)		Paper industries machinery (SIC 3554)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Purchased services:						
Cost of purchased services for the repair of—						
Buildings and other structures.....	2.4	(X)	1.0	(X)	3.0	(X)
Response coverage ratio (percent) ²	71.7	(X)	61.9	(X)	80.0	(X)
Machinery.....	3.7	(X)	3.5	(X)	10.9	(X)
Response coverage ratio (percent) ²	71.7	(X)	64.7	(X)	79.2	(X)
Other purchased services:						
Communications.....	5.8	(X)	3.2	(X)	6.6	(X)
Response coverage ratio (percent) ²	66.1	(X)	72.9	(X)	80.4	(X)
Legal.....	5.9	(X)	3.4	(X)	5.6	(X)
Response coverage ratio (percent) ²	70.0	(X)	64.7	(X)	82.2	(X)
Accounting and bookkeeping.....	2.4	(X)	1.2	(X)	3.0	(X)
Response coverage ratio (percent) ²	60.3	(X)	62.3	(X)	80.6	(X)
Advertising.....	4.7	(X)	8.7	(X)	5.4	(X)
Response coverage ratio (percent) ²	62.8	(X)	72.9	(X)	80.1	(X)
Software and other data processing.....	1.7	(X)	.4	(X)	4.4	(X)
Response coverage ratio (percent) ²	66.4	(X)	64.7	(X)	81.0	(X)
Refuse removal, including hazardous waste.....	1.0	(X)	.5	(X)	1.8	(X)
Response coverage ratio (percent) ²	69.8	(X)	64.7	(X)	81.0	(X)

See footnotes at end of table.

35D-12 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 3c. Supplemental Industry Statistics Based on Sample Estimates: 1992—Con.

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

Item	Textile machinery (SIC 3552)		Woodworking machinery (SIC 3553)		Paper industries machinery (SIC 3554)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
New machinery and equipment expenditures -----	33.4	(X)	16.4	(X)	51.1	(X)
Automobiles, trucks, etc., for highway use -----	1.3	18	.9	46	1.1	49
Computers and peripheral data processing equipment -----	4.8	8	2.9	34	9.2	19
All other -----	27.3	3	12.6	11	40.7	6
Adjustment ratio ³ -----	1.4	(X)	1.1	(X)	1.6	(X)
Cost of materials, components, parts, etc., used -----	509.1	(X)	334.0	(X)	968.1	(X)
Materials purchased or transferred from foreign sources ⁴ -----	49.3	21	(S)	(X)	249.3	20
Materials purchased or transferred from domestic sources -----	459.7	3	(S)	(X)	718.9	8
Adjustment ratio ³ -----	1.9	(X)	(S)	(X)	1.5	(X)

Item	Printing trades machinery (SIC 3555)		Food products machinery (SIC 3556)		Special industry machinery, n.e.c. (SIC 3559)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Purchased services:						
Cost of purchased services for the repair of—						
Buildings and other structures -----	2.8	(X)	3.9	(X)	17.1	(X)
Response coverage ratio (percent) ² -----	61.0	(X)	67.6	(X)	83.1	(X)
Machinery -----	5.7	(X)	12.4	(X)	45.0	(X)
Response coverage ratio (percent) ² -----	63.3	(X)	67.7	(X)	84.1	(X)
Other purchased services:						
Communications -----	10.8	(X)	7.8	(X)	43.1	(X)
Response coverage ratio (percent) ² -----	66.4	(X)	67.7	(X)	81.6	(X)
Legal -----	9.5	(X)	8.5	(X)	38.9	(X)
Response coverage ratio (percent) ² -----	66.6	(X)	67.2	(X)	82.8	(X)
Accounting and bookkeeping -----	3.5	(X)	4.1	(X)	13.7	(X)
Response coverage ratio (percent) ² -----	63.1	(X)	64.3	(X)	81.4	(X)
Advertising -----	9.4	(X)	16.2	(X)	47.6	(X)
Response coverage ratio (percent) ² -----	64.7	(X)	67.6	(X)	84.3	(X)
Software and other data processing -----	3.9	(X)	2.0	(X)	14.4	(X)
Response coverage ratio (percent) ² -----	59.1	(X)	66.5	(X)	79.3	(X)
Refuse removal, including hazardous waste -----	1.2	(X)	1.6	(X)	8.3	(X)
Response coverage ratio (percent) ² -----	61.0	(X)	65.0	(X)	81.3	(X)
New machinery and equipment expenditures -----	52.0	(X)	38.7	(X)	259.9	(X)
Automobiles, trucks, etc., for highway use -----	1.7	30	2.0	19	11.0	20
Computers and peripheral data processing equipment -----	10.4	9	10.1	18	49.1	6
All other -----	39.9	3	26.6	7	199.8	3
Adjustment ratio ³ -----	1.4	(X)	1.5	(X)	1.4	(X)
Cost of materials, components, parts, etc., used -----	1 078.7	(X)	834.3	(X)	4 299.3	(X)
Materials purchased or transferred from foreign sources ⁴ -----	80.3	17	54.9	23	247.8	10
Materials purchased or transferred from domestic sources -----	998.5	2	779.5	3	4 051.4	1
Adjustment ratio ³ -----	1.7	(X)	1.9	(X)	1.8	(X)

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies. Amounts purchased by separate central administrative offices and services provided to establishments by central administrative offices are excluded.

¹For description of relative standard error of estimate, see Qualifications of the Data in appendixes.

²A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in the industry.

³Detail has been adjusted upwards to account for nonresponse. Inverse of the ratio shown represents a measure of the response of the inquiry. (See appendixes for further explanation.)

⁴Data may understate the true cost of imported parts, components, and supplies since some respondents do not know the origin of these materials. Includes cases where materials were purchased from secondary suppliers or where they were transferred from company-operated warehouses or other distribution points. Direct purchases from foreign suppliers and importers by domestic manufacturing establishments are believed to be reported accurately.

Table 4. Industry Statistics by Employment Size of Establishment: 1992

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

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3552, TEXTILE MACHINERY												
Total -----	-	506	15.0	424.5	9.6	19.8	218.6	908.1	644.4	1 565.2	39.5	388.7
Establishments with an average of—												
1 to 4 employees -----	E8	156	.3	6.8	.2	.4	3.5	13.4	10.7	23.8	.6	5.5
5 to 9 employees -----	E3	106	.7	16.7	.5	1.0	9.2	31.2	27.2	58.3	.8	12.2
10 to 19 employees -----	E1	86	1.2	29.6	.8	1.5	15.8	58.9	40.1	98.2	2.2	17.3
20 to 49 employees -----	-	88	2.8	81.2	1.9	4.0	42.7	152.7	120.8	271.6	6.5	61.8
50 to 99 employees -----	-	45	3.1	95.8	1.9	4.3	46.5	181.7	177.1	355.0	10.1	93.0
100 to 249 employees -----	-	17	2.7	75.4	1.5	2.9	34.1	199.4	136.2	338.4	7.3	93.5
250 to 499 employees -----	-	4	1.3	35.8	.9	2.0	20.4	82.2	42.0	124.6	3.3	30.4
500 to 999 employees -----	-	4	2.8	83.2	1.7	3.7	46.4	188.7	90.3	295.3	8.7	75.0
Covered by administrative records ² -----	E9	194	.6	11.7	.4	.8	6.1	20.8	17.0	37.8	1.0	9.1

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1992—Con.

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

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3553, WOODWORKING MACHINERY												
Total	E1	289	7.2	206.1	4.7	9.5	109.8	458.8	439.5	894.6	19.5	158.1
Establishments with an average of—												
1 to 4 employees	E9	101	.2	3.9	.1	.2	2.0	9.7	9.1	18.9	.5	3.7
5 to 9 employees	E3	51	.3	7.7	.2	.4	4.4	16.8	12.8	29.1	.4	5.3
10 to 19 employees	E1	47	.7	19.3	.4	.9	10.5	39.5	33.1	72.4	1.1	12.1
20 to 49 employees	E2	50	1.6	47.0	1.0	2.0	23.4	89.2	75.6	164.6	4.8	36.8
50 to 99 employees	E1	25	1.7	51.1	1.1	2.3	26.8	104.5	72.2	177.5	3.2	34.1
100 to 249 employees	—	13	2.8	77.2	1.8	3.6	42.8	199.1	236.7	432.1	9.6	66.0
250 to 499 employees	—	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	111	.3	5.3	.2	.4	2.7	12.8	12.3	25.1	.6	5.0
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY												
Total	—	333	18.2	651.8	10.2	21.3	314.3	1 273.8	1 209.8	2 524.2	65.4	527.7
Establishments with an average of—												
1 to 4 employees	E8	68	.1	3.8	.1	.2	2.3	8.3	9.5	17.8	.6	3.2
5 to 9 employees	E6	53	.4	10.2	.2	.4	5.1	20.6	23.5	45.5	.6	8.2
10 to 19 employees	E2	59	.8	22.8	.5	1.1	12.5	43.4	46.1	89.1	2.0	15.8
20 to 49 employees	E1	69	2.1	66.3	1.2	2.5	31.2	133.3	122.4	260.8	3.6	41.9
50 to 99 employees	—	40	2.7	95.0	1.7	3.6	50.3	203.2	165.5	369.3	9.4	71.6
100 to 249 employees	—	27	4.1	155.0	2.2	5.1	70.7	274.3	236.9	523.9	12.4	94.8
250 to 499 employees	—	13	4.6	173.8	2.5	5.2	84.8	375.0	433.2	819.2	28.6	214.9
500 to 999 employees	—	3	3.4	124.8	1.7	3.3	57.4	215.7	172.8	398.6	8.3	77.4
1,000 to 2,499 employees	—	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	101	.4	9.5	.3	.6	5.3	16.2	21.7	37.9	.7	7.2
INDUSTRY 3555, PRINTING TRADES MACHINERY												
Total	—	506	18.7	655.9	10.3	22.0	300.3	1 266.4	1 267.6	2 591.9	59.6	729.6
Establishments with an average of—												
1 to 4 employees	E6	134	.2	6.5	.1	.3	3.3	16.7	16.5	33.3	.7	9.9
5 to 9 employees	E6	93	.6	18.2	.4	.8	9.3	29.4	29.4	58.4	1.3	20.6
10 to 19 employees	E2	99	1.4	44.1	.8	1.8	22.0	92.2	73.7	165.9	3.6	39.9
20 to 49 employees	E1	93	2.8	94.4	1.7	3.9	45.6	199.8	141.4	342.2	7.9	75.8
50 to 99 employees	—	46	3.3	112.9	1.9	4.1	50.3	243.8	177.3	418.2	12.9	90.3
100 to 249 employees	—	29	4.4	154.4	2.5	5.0	71.7	281.4	317.5	633.1	8.9	212.8
250 to 499 employees	—	8	3.0	110.3	1.6	3.4	50.0	204.4	178.0	389.8	14.7	110.7
500 to 999 employees	—	4	2.9	115.0	1.3	2.6	48.0	198.8	333.9	551.1	9.6	169.5
Covered by administrative records ²	E9	191	.8	20.2	.5	1.0	10.3	29.8	33.3	63.1	1.5	19.3
INDUSTRY 3556, FOOD PRODUCTS MACHINERY												
Total	—	518	18.8	605.5	11.1	22.2	289.9	1 392.1	1 008.4	2 407.2	46.8	482.0
Establishments with an average of—												
1 to 4 employees	E8	109	.2	5.9	.1	.3	2.9	14.7	10.0	24.8	.5	4.8
5 to 9 employees	E4	75	.5	15.4	.3	.6	6.9	33.6	24.1	57.6	1.0	10.8
10 to 19 employees	E1	106	1.5	43.3	1.0	1.9	22.3	97.1	77.5	172.0	4.4	38.7
20 to 49 employees	—	136	4.3	129.6	2.6	5.4	63.9	274.2	203.6	478.0	7.0	85.9
50 to 99 employees	—	44	3.0	95.3	1.8	3.7	48.2	210.4	161.6	377.6	6.4	68.9
100 to 249 employees	—	40	6.1	211.2	3.3	6.6	89.0	496.6	357.6	851.0	17.8	194.5
250 to 499 employees	—	6	3.1	104.8	1.9	3.7	56.7	265.5	174.1	446.2	9.7	78.5
500 to 999 employees	—	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	133	.5	10.5	.3	.6	4.9	21.9	16.8	38.6	.9	8.2
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.												
Total	—	2 557	81.9	2 903.9	44.0	89.8	1 168.8	6 226.2	5 146.9	11 297.2	348.1	2 456.5
Establishments with an average of—												
1 to 4 employees	E8	839	1.4	41.6	.9	1.8	17.2	83.4	74.2	157.5	4.0	34.7
5 to 9 employees	E3	472	3.1	84.8	1.8	3.5	36.7	178.8	149.6	327.4	6.1	63.3
10 to 19 employees	E1	432	6.1	181.4	3.7	6.8	81.1	357.5	295.7	649.8	13.4	123.0
20 to 49 employees	E1	414	12.7	412.1	7.4	15.1	187.1	789.7	680.1	1 456.4	37.6	293.7
50 to 99 employees	E1	211	14.7	492.4	8.3	17.5	217.5	985.3	909.1	1 896.8	36.6	396.1
100 to 249 employees	—	137	20.4	713.6	10.9	22.7	305.6	1 476.9	1 301.1	2 780.1	84.6	640.3
250 to 499 employees	—	39	13.3	492.9	6.7	13.6	199.7	1 132.3	871.2	1 981.4	47.8	428.9
500 to 999 employees	—	11	10.2	485.1	4.4	8.8	123.8	1 222.4	865.8	2 048.0	118.0	476.4
1,000 to 2,499 employees	—	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	993	2.7	63.6	1.7	3.3	26.5	117.4	104.9	222.3	6.4	50.0

See footnotes at end of table.

35D-14 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 4. Industry Statistics by Employment Size of Establishment: 1992—Con.

Note: For qualifications of data, see footnotes on table 1a. Data shown as (D) are included in underscored figures above.

¹Payroll and sales data for some small single-establishment manufacturing 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 the items shown 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 for those employment-size classes where estimated data based on administrative-record data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Report forms were not mailed to small single-establishment companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1992 were obtained from administrative records supplied by other agencies of the Federal Government. Those data were then used in conjunction with industry averages to estimate the items shown. Data are also included in respective employment-size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry or product class code	Industry or primary product class	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3552	Textile machinery: All establishments in industry -----	506	15.0	424.5	9.6	19.8	218.6	908.1	644.4	1 565.2	39.5
	Establishments with this product class primary:										
35521	Textile machinery, except parts, attachments, and accessories -----	131	7.0	210.8	4.1	8.5	100.9	480.3	390.5	885.3	18.8
35522	Parts and attachments for textile machinery -----	116	5.9	163.3	4.1	8.6	91.6	329.7	180.1	509.9	15.8
3553	Woodworking machinery: All establishments in industry -----	289	7.2	206.1	4.7	9.5	109.8	458.8	439.5	894.6	19.5
	Establishments with this product class primary:										
35533	Woodworking machinery, including parts, attachments, and accessories -----	124	5.1	156.3	3.3	6.7	83.1	314.3	243.1	557.6	11.9
35534	Woodworking machinery for home workshops, garages, service shops -----	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3554	Paper industries machinery: All establishments in industry -----	333	18.2	651.8	10.2	21.3	314.3	1 273.8	1 209.8	2 524.2	65.4
	Establishments with this product class primary:										
35543	Paper industries machinery -----	129	13.4	486.2	7.5	15.5	238.4	929.2	954.0	1 915.0	52.7
35544	Parts and attachments for paper industries machinery (sold separately) -----	53	3.3	121.2	1.7	3.7	50.8	263.0	160.7	431.5	9.5
3555	Printing trades machinery: All establishments in industry -----	506	18.7	655.9	10.3	22.0	300.3	1 266.4	1 267.6	2 591.9	59.6
	Establishments with this product class primary:										
35551	Printing presses, offset lithographic -----	29	4.2	161.7	2.4	5.1	82.2	251.1	493.3	804.5	17.2
35552	Printing presses, other than lithographic -----	25	2.5	90.0	1.3	2.7	38.8	196.4	154.5	342.6	8.3
35553	Typesetting machinery, excluding justifying typewriters -----	4	1.3	47.8	.4	.8	12.5	73.2	72.8	153.4	4.8
35556	Binding machinery and equipment, including paper cutting and collating or gathering machines -----	24	1.4	48.0	.9	1.7	22.6	96.6	86.4	185.0	3.0
35558	Printing trades machinery, n.e.c. -----	141	6.6	229.2	3.7	8.1	102.6	513.4	327.6	837.7	20.2
3556	Food products machinery: All establishments in industry -----	518	18.8	605.5	11.1	22.2	289.9	1 392.1	1 008.4	2 407.2	46.8
	Establishments with this product class primary:										
35561	Dairy and milk products plant machinery and equipment, except bottling and packaging -----	25	2.4	81.9	1.6	3.0	48.1	159.3	160.7	318.3	5.9
35562	Commercial food products machinery, except packaging machinery and food cooking and warming equipment -----	96	5.5	185.1	3.3	6.8	90.2	488.2	323.2	814.3	12.1
35563	Industrial machinery and equipment for manufacturing or processing foods, beverages, and animal or fowl feed -----	180	7.9	259.2	4.5	9.1	116.1	549.6	390.9	947.3	20.8
3559	Special industry machinery, n.e.c.: All establishments in industry -----	2 557	81.9	2 903.9	44.0	89.8	1 168.8	6 226.2	5 146.9	11 297.2	348.1
	Establishments with this product class primary:										
35591	Chemical manufacturing machinery, equipment, and parts -----	99	6.5	234.1	3.4	7.0	101.1	430.5	426.0	865.9	19.8
35592	Foundry machinery and equipment, excluding patterns and molds -----	61	2.9	95.7	1.5	3.0	38.7	197.0	173.0	365.6	5.3
35593	Plastics working machinery and equipment, excluding patterns and molds -----	175	11.4	396.9	6.3	13.2	183.9	871.4	813.4	1 681.3	25.4
35594	Rubber working machinery and equipment, excluding tire molds -----	33	1.4	44.8	.8	1.8	22.1	80.5	97.1	176.5	4.9
35595	Printed circuit board manufacturing machinery, except testing -----	72	4.7	140.6	2.8	6.2	67.6	287.3	229.5	514.5	13.1
35596	Semiconductor manufacturing equipment (except furnaces and ovens, instruments and photolithography) -----	115	12.3	595.5	4.5	9.5	143.5	1 463.9	964.3	2 374.9	116.1
35597	Automotive maintenance equipment, except handtools -----	45	2.7	81.4	1.6	3.0	35.9	271.3	203.9	475.9	12.3
35598	Special industry machinery and equipment, n.e.c. -----	538	24.3	832.1	14.0	28.0	372.1	1 751.1	1 465.2	3 195.7	107.1

Note: For qualifications of data, see footnotes on table 1a.

Table 5b. Industry–Product Analysis—Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3552, TEXTILE MACHINERY			
Total value of shipments	1 565.2	1 240.7	1 059.0
Primary products value of shipments	1 298.5	1 064.9	922.6
Secondary products value of shipments	15.2	39.4	42.0
Total miscellaneous receipts	251.6	136.4	94.4
Value of resales	120.6	77.7	38.7
Contract receipts	13.7	17.0	29.9
Other miscellaneous receipts	117.3	41.7	25.8
Receipts for installation (or construction) of products of this establishment	12.3	9.7	6.4
Receipts for repair work	38.7	18.2	8.1
Other miscellaneous receipts	58.2	13.8	11.3
Other miscellaneous receipts, n.s.k.	8.0	—	—
Primary products specialization ratio	99	96	96
Value of primary products shipments made in all industries	1 327.6	1 104.2	965.5
Value of primary products shipments made in this industry	1 298.5	1 064.9	922.6
Value of primary products shipments made in other industries	29.1	39.2	43.0
Coverage ratio	98	96	95
INDUSTRY 3553, WOODWORKING MACHINERY			
Total value of shipments	894.6	884.3	(NA)
Primary products value of shipments	723.1	722.8	(NA)
Secondary products value of shipments	35.1	72.5	(NA)
Total miscellaneous receipts	136.4	89.1	(NA)
Value of resales	110.1	70.0	(NA)
Contract receipts	10.3	6.5	(NA)
Other miscellaneous receipts	16.0	12.6	(NA)
Sales of scrap and refuse	(D)	.3	(NA)
Receipts for installation (or construction) of products of this establishment	4.4	2.4	(NA)
Receipts for repair work	(D)	4.5	(NA)
Other miscellaneous receipts	3.5	5.4	(NA)
Other miscellaneous receipts, n.s.k.3	—	(NA)
Primary products specialization ratio	95	91	(NA)
Value of primary products shipments made in all industries	775.3	793.4	(NA)
Value of primary products shipments made in this industry	723.1	722.8	(NA)
Value of primary products shipments made in other industries	52.2	70.6	(NA)
Coverage ratio	93	91	(NA)
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY			
Total value of shipments	2 524.2	1 867.1	1 387.4
Primary products value of shipments	2 079.4	1 466.2	1 112.6
Secondary products value of shipments	180.8	155.1	138.3
Total miscellaneous receipts	264.0	245.8	136.5
Value of resales	157.0	168.0	72.1
Contract receipts	21.2	18.1	22.1
Other miscellaneous receipts	85.8	59.8	42.3
Receipts for repair work	41.9	47.2	21.1
Other miscellaneous receipts	39.4	12.6	16.7
Other miscellaneous receipts, n.s.k.	4.5	—	4.5
Primary products specialization ratio	92	90	89
Value of primary products shipments made in all industries	2 229.8	1 580.7	1 199.0
Value of primary products shipments made in this industry	2 079.4	1 466.2	1 112.6
Value of primary products shipments made in other industries	150.5	114.5	86.4
Coverage ratio	93	93	93
INDUSTRY 3555, PRINTING TRADES MACHINERY			
Total value of shipments	2 591.9	2 857.8	(NA)
Primary products value of shipments	2 179.7	2 389.9	(NA)
Secondary products value of shipments	123.9	96.7	(NA)
Total miscellaneous receipts	288.3	371.3	(NA)
Value of resales	182.6	224.6	(NA)
Contract receipts	9.5	6.4	(NA)
Other miscellaneous receipts	96.1	140.2	(NA)
Receipts for installation (or construction) of products of this establishment	22.2	24.6	(NA)
Receipts for repair work	29.6	81.4	(NA)
Other miscellaneous receipts	41.7	34.2	(NA)
Other miscellaneous receipts, n.s.k.	2.6	—	(NA)
Primary products specialization ratio	95	96	(NA)
Value of primary products shipments made in all industries	2 301.3	2 554.3	(NA)
Value of primary products shipments made in this industry	2 179.7	2 389.9	(NA)
Value of primary products shipments made in other industries	121.6	164.4	(NA)
Coverage ratio	95	94	(NA)

35D–16 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 5b. Industry-Product Analysis-Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years-Con.

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3556, FOOD PRODUCTS MACHINERY			
Total value of shipments	2 407.2	1 971.4	(NA)
Primary products value of shipments	1 921.4	1 586.5	(NA)
Secondary products value of shipments	238.0	254.5	(NA)
Total miscellaneous receipts	247.9	130.5	(NA)
Value of resales	162.8	89.4	(NA)
Contract receipts	6.6	12.2	(NA)
Other miscellaneous receipts	78.5	28.8	(NA)
Sales of scrap and refuse9	.4	(NA)
Receipts for installation (or construction) of products of this establishment	24.6	10.5	(NA)
Receipts for repair work	23.1	7.0	(NA)
Other miscellaneous receipts	14.8	10.9	(NA)
Other miscellaneous receipts, n.s.k.	15.1	-	(NA)
Primary products specialization ratio	89	86	(NA)
Value of primary products shipments made in all industries	2 113.3	1 735.2	(NA)
Value of primary products shipments made in this industry	1 921.4	1 586.5	(NA)
Value of primary products shipments made in other industries	191.9	148.7	(NA)
Coverage ratio	91	91	(NA)
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.			
Total value of shipments	11 297.2	8 274.7	(NA)
Primary products value of shipments	9 818.8	7 216.0	(NA)
Secondary products value of shipments	591.5	495.6	(NA)
Total miscellaneous receipts	886.9	563.1	(NA)
Value of resales	538.1	371.5	(NA)
Contract receipts	95.4	90.7	(NA)
Other miscellaneous receipts	253.5	100.9	(NA)
Sales of scrap and refuse	2.5	.9	(NA)
Receipts for installation (or construction) of products of this establishment	36.9	20.7	(NA)
Receipts for repair work	40.0	32.0	(NA)
Other miscellaneous receipts	167.2	47.3	(NA)
Other miscellaneous receipts, n.s.k.	6.9	-	(NA)
Primary products specialization ratio	94	94	(NA)
Value of primary products shipments made in all industries	10 534.9	7 951.0	(NA)
Value of primary products shipments made in this industry	9 818.8	7 216.0	(NA)
Value of primary products shipments made in other industries	716.0	735.0	(NA)
Coverage ratio	93	91	(NA)

Note: For qualifications of data, see footnotes on table 1a.

Table 6a. Product and Product Classes-Quantity and Value of Shipments by All Producers: 1992 and 1987

[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 further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3552- —	TEXTILE MACHINERY						
	Total	(NA)	(X)	1 327.6	(NA)	(X)	1 104.2
35521	Textile machinery, except parts, attachments, and accessories	(NA)	(X)	697.0	(NA)	(X)	515.4
	Fiber-to-fabrics textile machinery:						
35521 15	Cleaning and opening machinery, including picker, garnetting, and other	11	(X)	27.2	6	(X)	14.4
35521 25	Carding machines and combing machines	5	(X)	5.9	5	(X)	20.7
35521 36	Drawing and roving frames	2	(D)	(D)	2	(D)	(D)
	Spinning and twisting frames:						
35521 38	Frames	2	(D)	(D)	3	(D)	(D)
	Yarn preparing machines:						
35521 51	Winding machines (skein, spool, bobbin, quill, cone, etc.)	9	(X)	25.3	6	(X)	14.5
35521 53	Other yarn preparing machines (beaming, warping, warp tying, warp drawing in, slashing, etc.)	9	(X)	18.2	9	(X)	38.3
35521 57	Other fiber-to-fabrics machinery, including machines for extruding, drawing, or cutting manmade textile fibers	11	(X)	44.1	(NA)	(X)	84.5

See footnotes at end of table.

MANUFACTURES-INDUSTRY SERIES

SPECIAL INDUSTRY MACHINERY 35D-17

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3552—	TEXTILE MACHINERY—Con.						
35521	Textile machinery, except parts, attachments, and accessories—Con.						
	Fabrics machinery:						
35521 67	Weaving machinery, power-driven (including machinery for broad and narrow fabrics), shuttle and shuttleless	5	(X)	10.0	(NA)	(X)	(D)
35521 71	Knitting machinery	5	(X)	(D)	5	(X)	36.8
35521 81	Other fabrics machinery, including lace, embroidery, braiding, and tufting machinery and hand looms	15	(X)	69.2	15	(X)	51.1
35521 82	Bleaching, mercerizing, and dyeing machinery	8	(X)	73.6	8	(X)	48.9
35521 83	Printing machinery	12	(X)	31.1	7	(X)	18.5
35521 86	Finishing machinery, including calendering or rolling machines	20	(X)	65.9	(NA)	(X)	57.5
35521 87	Machinery for drying stocks, yarns, cloth, carpet, nonwoven, etc.	16	(X)	56.4	18	(X)	34.1
35521 98	Other textile industries machinery, n.e.c. (except parts, attachments, and accessories)	44	(X)	173.1	31	(X)	62.5
35521 00	Textile machinery, except parts, attachments, and accessories, n.s.k.	(NA)	(X)	16.3	(NA)	(X)	19.2
35522	Parts and attachments for textile machinery	(NA)	(X)	473.8	(NA)	(X)	433.9
35522 11	Textile machinery turnings and shapes (bobbins, shuttles, spools, picker sticks, cops, etc.)	23	(X)	46.2	15	(X)	36.8
	Parts and attachments:						
	Fiber-to-fabrics machinery:						
35522 22	Card clothing	8	(X)	22.8	8	(X)	34.0
35522 31	Other fiber-to-fabrics machinery, except card clothing	31	(X)	85.1	35	(X)	112.7
35522 43	Weaving machines, including broad and narrow fabrics	17	(X)	77.4	19	(X)	67.9
35522 45	Knitting machines, excluding needles	17	(X)	31.5	16	(X)	22.5
35522 74	Finishing machinery	20	(X)	33.2	28	(X)	39.7
35522 79	Other textile machinery, including printing	86	(X)	162.7	67	(X)	91.5
35522 00	Parts and attachments for textile machinery, n.s.k.	(NA)	(X)	14.8	(NA)	(X)	28.8
35520	Textile machinery, n.s.k.	(NA)	(X)	156.9	(NA)	(X)	154.9
35520 00	Textile machinery, n.s.k. ³	(NA)	(X)	119.4	(NA)	(X)	108.9
35520 02	Textile machinery, n.s.k. ⁴	(NA)	(X)	37.5	(NA)	(X)	46.0
3553—	WOODWORKING MACHINERY						
	Total	(NA)	(X)	775.3	(NA)	(X)	793.4
35533	Woodworking machinery, including parts, attachments, and accessories	(NA)	(X)	479.0	(NA)	(X)	476.0
	Sawmill equipment:						
	Saws (head rigs):						
35533 11	Circular	13	(X)	17.7	9	(X)	10.8
35533 13	Band	11	(X)	43.9	8	(X)	20.2
35533 15	Other sawmill equipment, except saws (head rigs)	26	(X)	75.7	21	(X)	80.1
35533 19	Sawing machines, except sawmill equipment	18	(X)	44.7	19	(X)	64.3
35533 21	Planing machinery, including single and double planers, facers, jointers, and abrasive planers	7	(X)	11.4	13	(X)	27.4
35533 23	Sanding machines	14	(X)	24.9	11	(X)	28.9
35533 25	Boring machines	4	(X)	2.8	3	(X)	2.1
35533 27	Mortising and tenoning machines	4	(X)	(⁶)	5	(X)	6.3
35533 29	Lathes or turning machines	5	(X)	3.5	(NA)	(X)	33.6
35533 33	Routers	9	(X)	26.8	5	(X)	8.4
35533 34	Shapers and profilers	9	(X)	9.8	(NA)	(X)	(⁶)
35533 35	Assembling, gluing, laminating, and finishing machines	15	(X)	23.1	10	(X)	18.9
35533 37	Multifunction machines	5	(X)	4.5	6	(X)	14.3
35533 38	Other woodworking machines and equipment, including moulders	31	(X)	564.9	34	(X)	692.4
35533 87	Parts, attachments, and accessories for woodworking machinery (sold separately), excluding saw blades and cutting tools	61	(X)	120.1	55	(X)	62.7
35533 00	Woodworking machinery, including parts, attachments, and accessories, n.s.k.	(NA)	(X)	5.1	(NA)	(X)	5.6
35534	Woodworking machinery for home workshops, garages, service shops	(NA)	(X)	181.6	(NA)	(X)	199.1
35534 12	Saws, including circular and band saws, excluding chain saws	6	541.2	125.8	(NA)	779.2	123.1
35534 13	Other woodworking machines and equipment, designed primarily for home workshops, etc., except power-driven handtools	5	(X)	34.6	(NA)	(X)	42.9
35534 11	Parts, attachments, and accessories for woodworking machinery designed for home workshops, etc. (sold separately)	7	(X)	18.8	6	(X)	28.3
35534 00	Woodworking machinery for home workshops, garages, service shops, n.s.k.	(NA)	(X)	2.4	(NA)	(X)	4.7
35530	Woodworking machinery, n.s.k.	(NA)	(X)	114.7	(NA)	(X)	118.3
35530 00	Woodworking machinery, n.s.k. ³	(NA)	(X)	89.6	(NA)	(X)	82.2
35530 02	Woodworking machinery, n.s.k. ⁴	(NA)	(X)	25.1	(NA)	(X)	36.1

See footnotes at end of table.

35D-18 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3554—	PAPER INDUSTRIES MACHINERY				
	Total	(NA)	2 229.8	(NA)	1 580.7
35543	Paper industries machinery	(NA)	1 375.4	(NA)	936.1
35543 01	Wood preparation equipment, including debarkers, chippers, knotters, splitters, chipscreens, etc.	12	42.1	5	52.8
	Pulp mill machinery:				
35543 02	Grinders and refiners (TMP) for the manufacture of mechanical pulp	3	(D)	4	18.8
35543 03	Digesters and other equipment for the manufacture of chemical pulp	2	(D)	5	24.1
35543 04	Deckers, thickeners, wet lap machines, bleaching equipment, pulp screens, washers, and save-alls	8	72.6	6	23.2
35543 05	Other pulp mill machinery	5	34.4	11	22.3
35543 09	Paper mill machinery: Stock preparation equipment: refiners (chip, conical, deflaker, disk, etc.), pulpers, beaters, jordans, etc.	9	70.9	7	34.0
	Paper machines:				
35543 11	Paper making machines, including headbox forming area, presses, dryers, and reels	18	230.7	11	158.7
35543 12	Coating machines, including equipment for applying sizing or pigment coating to paper	14	34.4	6	16.0
35543 13	Calendering and similar rolling machines for finishing paper	7	29.7	8	38.1
35543 14	Machines for finishing paper, except calendering or similar rolling	24	125.6	13	66.4
35543 15	Other paper machines	20	112.9	6	36.8
	Paper and paperboard converting equipment:				
35543 21	Cutting machines, except sheeters and winders	16	32.6	12	24.7
35543 22	Machines for making bags, sacks, or envelopes	3	(D)	6	19.7
35543 23	Corrugated box making machines	17	178.1	12	71.6
35543 24	Machines for making cartons, boxes, cases, tubes, drums, or similar containers, except by molding	7	(D)	(NA)	(⁷)
35543 25	Machines for molding articles in paper pulp, paper, or paperboard	3	13.8	(NA)	⁷ 91.8
35543 26	Other paper and paperboard converting equipment (folding, gluing, laminating, gumming, scoring, sandpapering, etc.)	39	172.2	40	201.3
35543 00	Paper industries machinery, n.s.k.	(NA)	33.7	(NA)	35.9
35544	Parts and attachments for paper industries machinery (sold separately)	(NA)	690.7	(NA)	507.8
35544 01	Parts and attachments for wood preparation equipment	7	15.9	(NA)	100.6
35544 02	Parts and attachments for pulp mill machinery	20	69.6	(NA)	59.3
35544 03	Parts and attachments for machines for finishing paper	13	70.1	16	189.8
35544 04	Parts and attachments for paper mill machinery, except machines for finishing paper	36	278.6	27	143.3
35544 05	Parts and attachments for paper and paperboard converting equipment	45	241.1	44	14.8
35544 00	Parts and attachments for paper industries machinery (sold separately), n.s.k.	(NA)	15.5	(NA)	14.8
35540	Paper industries machinery, n.s.k.	(NA)	163.7	(NA)	136.9
35540 00	Paper industries machinery, n.s.k. ⁸	(NA)	125.8	(NA)	76.6
35540 02	Paper industries machinery, n.s.k. ⁹	(NA)	37.9	(NA)	60.3

Product code	Product	1992				1987			
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹			
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)		
3555—	PRINTING TRADES MACHINERY								
	Total	(NA)	(X)	2 301.3	(NA)	(X)	2 554.3		
35551	Printing presses, offset lithographic	(NA)	(X)	616.5	(NA)	(X)	724.4		
	Sheet-fed:								
35551 01	Small offset lithographic presses, less than 14 inches	4	(X)	14.0	7	(X)	59.8		
35551 03	Other offset lithographic presses, 14 inches or more	4	(X)	13.2					
	Roll-fed (web-fed):								
35551 32	Newspaper	7	(S)	301.7	8	986	205.2		
35551 33	Business form presses	8	179	44.1	6	346	71.2		
35551 35	Commercial, including heat-set	11	767	225.1	10	* 1 532	363.5		
35551 36	All other roll-fed (web-fed) offset lithographic printing presses	6	(X)	10.6	6	(X)	23.0		
35551 00	Printing presses, offset lithographic, n.s.k.	(NA)	(X)	8.0	(NA)	(X)	1.7		
35552	Printing presses, other than lithographic	(NA)	(X)	302.2	(NA)	(X)	175.9		
	Flexographic, sheet-fed and web-fed:								
35552 03	Presses less than 16 inches	10	** 413	71.4	11	(S)	76.7		
35552 05	Presses 16 inches or more	9	62	61.2					

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987			
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3555—	PRINTING TRADES MACHINERY—Con.						
35552	Printing presses, other than lithographic—Con.						
35552 09	Other printing presses, including letterpress, gravure, metal decorating, proof, screen, pad printing, and rebuilt	22	(X)	162.4	(NA)	(X)	95.0
35552 00	Printing presses, other than lithographic, n.s.k.	(NA)	(X)	7.2	(NA)	(X)	4.1
35553	Typesetting machinery, excluding justifying typewriters	(NA)	(X)	133.4	(NA)	(X)	333.1
35553 00	Typesetting machinery, excluding justifying typewriters	5	(X)	133.4	(NA)	(X)	333.1
35556	Binding machinery and equipment, including paper cutting and collating or gathering machines	(NA)	(X)	171.0	(NA)	(X)	276.1
35556 61	Saddle, perfect/adhesive, and hard case (edition) binding equipment	10	(X)	47.8	6	(X)	105.9
35556 66	Paper cutting machines	6	(X)	16.7	9	(X)	28.8
35556 67	Collating and/or gathering machines (sold separately)	12	(X)	22.5	17	(X)	57.1
35556 71	Folding machines	6	(X)	18.2	20	(X)	84.3
35556 73	Newspaper inserting equipment	5	(X)	43.9			
35556 79	Other binding machinery and equipment, including stitchers and trimmers	14	(X)	21.8			
35556 00	Binding machinery and equipment, including paper cutting and collating or gathering machines, n.s.k.	(NA)	(X)	—	(NA)	(X)	—
35558	Printing trades machinery, n.e.c.	(NA)	(X)	828.0	(NA)	(X)	784.5
35558 01	Pre-press preparation equipment, excluding typesetting equipment, cameras: Digital electronic pre-press systems, components, and elements	5	(X)	32.1	(NA)	(X)	(¹⁰)
35558 03	Digital proofing devices, miscellaneous digital electronic pre-press systems	3	(X)	36.0	(NA)	(X)	(¹⁰)
35558 11	Other pre-press preparatory equipment, except densitometers	10	(X)	—	(NA)	(X)	¹⁰ 77.5
35558 69	Engravers' materials and equipment, including metal plates, etc.	17	(X)	66.1	12	(X)	85.4
35558 99	Other printing trades machinery and equipment, including platens, except typewriters	40	(X)	156.7	32	(X)	126.9
35558 83	Parts, attachments, and accessories for printing trades machinery, all types: For printing presses, including flying pasters, dryers, folders, and reels	76	(X)	395.6	68	(X)	293.1
35558 85	For typesetting machines	1	(X)	¹¹ 1.7	9	(X)	78.8
35558 87	For bindery equipment	14	(X)	30.4	10	(X)	14.9
35558 91	For pre-press preparatory equipment, excluding typesetting and camera parts	6	(X)	14.9	(NA)	(X)	(¹²)
35558 93	For other printing trades machinery and equipment	35	(X)	¹¹ 77.5	(NA)	(X)	¹² 57.4
35558 00	Printing trades machinery, n.e.c., n.s.k.	(NA)	(X)	17.1	(NA)	(X)	50.5
35550	Printing trades machinery, n.s.k.	(NA)	(X)	250.2	(NA)	(X)	260.3
35550 00	Printing trades machinery, n.s.k. ⁸	(NA)	(X)	187.1	(NA)	(X)	211.1
35550 02	Printing trades machinery, n.s.k. ⁹	(NA)	(X)	63.1	(NA)	(X)	49.2
Product code	Product	1992		1987			
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)		
3556—	FOOD PRODUCTS MACHINERY						
	Total	(NA)	2 113.3	(NA)	1 735.2		
35561	Dairy and milk products plant machinery and equipment, except bottling and packaging	(NA)	261.7	(NA)	262.3		
35561 05	Ice cream freezers	6	(D)	7	155.5		
35561 06	Butter and cheese processing plant machinery and equipment	9	15.5	7	18.0		
35561 09	Homogenizers	4	(D)	3	19.6		
35561 18	Other dairy and milk products plant machinery and equipment, including cream separators, pasteurizers, sterilizers, etc.	21	98.2	(NA)	57.2		
35561 21	Parts and attachments for dairy and milk products plant machinery and equipment	17	31.6	8	11.5		
35561 00	Dairy and milk products plant machinery and equipment, except bottling and packaging, n.s.k.	(NA)	1.0	(NA)	.5		
35562	Commercial food products machinery, except packaging machinery and food cooking and warming equipment	(NA)	750.9	(NA)	619.5		
35562 11	Slicers	20	111.1	16	138.1		
35562 21	Choppers, grinders, cutters, dicers, and similar machines	23	114.0	25	120.7		
35562 31	Mixers and whippers, except drink mixers	16	80.4	17	116.7		
	Industrial bakery machinery and equipment:						
35562 65	Dough mixers, dividers, and molders	20	60.9	13	32.9		
35562 73	Bake ovens, including traveling tray	15	49.9	(NA)	42.3		
35562 89	Other bakery machinery and equipment, including pastry rolling machines	28	82.3	(NA)	79.6		
35562 41	Other commercial food preparation machines, including tenderizers (power-driven)	34	99.2	18	22.5		
35562 51	Parts and attachments for commercial food preparation machines ..	37	118.3	25	46.5		

See footnotes at end of table.

35D-20 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3556—	FOOD PRODUCTS MACHINERY—Con.				
35562	Commercial food products machinery, except packaging machinery and food cooking and warming equipment—Con.				
35562 00	Commercial food products machinery, except packaging machinery and food cooking and warming equipment, n.s.k.	(NA)	35.0	(NA)	20.1
35563	Industrial machinery and equipment for manufacturing or processing foods, beverages, and animal or fowl feed.....	(NA)	814.4	(NA)	559.8
35563 04	Presses, crushers, and similar machinery used in the production of wine, cider, fruit juices, and similar beverages.....	4	(1) ³	6	37.1
35563 05	Machinery for sorting, grading, or cleaning fruits, vegetables, or eggs.....	43	106.9	23	56.4
35563 11	Meat and poultry processing and preparation machinery and equipment (killing, dehairing, stuffing, cooking, rendering)	49	141.8	38	157.7
35563 12	Machinery, not specified above, for the preparation of fruits, vegetables, and nuts	32	63.5	20	53.1
35563 19	Other industrial food and feed products machinery	97	¹³ 336.6	(NA)	150.4
35563 21	Parts and attachments for industrial food products machinery	84	148.1	49	72.4
35563 00	Industrial machinery and equipment for manufacturing or processing foods, beverages, and animal or fowl feed, n.s.k.....	(NA)	17.5	(NA)	32.7
35560	Food products machinery, n.s.k.....	(NA)	286.3	(NA)	293.6
35560 00	Food products machinery, n.s.k. ³	(NA)	244.9	(NA)	234.8
35560 02	Food products machinery, n.s.k. ⁴	(NA)	41.4	(NA)	58.8
3559—	SPECIAL INDUSTRY MACHINERY, N.E.C.				
	Total	(NA)	10 534.9	(NA)	7 951.0
35591	Chemical manufacturing machinery, equipment, and parts	(NA)	821.5	(NA)	719.7
35591 01	Distilling, rectifying, or fractionating	14	37.8	6	29.4
35591 03	Heat exchange units	19	65.2	7	78.0
35591 05	Dryers	24	64.0	10	31.3
35591 07	Gas or air liquefying machinery	7	79.2	8	121.4
35591 09	Mixing, kneading, crushing, grinding, sifting, homogenizing (except dairy), emulsifying, or stirring machines.....	41	161.3	39	157.1
35591 11	Other chemical manufacturing machines and equipment	52	215.7	46	168.7
35591 13	Parts for distilling, rectifying, fractionating, heat exchange, dryers, gas or air liquefying machinery and equipment	22	103.8	10	28.2
35591 15	Parts for other chemical manufacturing machinery and equipment	28	50.2	35	63.3
35591 00	Chemical manufacturing machinery, equipment, and parts, n.s.k.	(NA)	44.3	(NA)	42.3
35592	Foundry machinery and equipment, excluding patterns and molds.....	(NA)	319.0	(NA)	240.9
35592 01	Foundry pouring equipment, including ladles, crucibles, and pouring machines	12	22.6	14	21.1
35592 04	Molding machines	10	18.5	(NA)	14.3
35592 11	Casting machines, except die-casting machines	5	14.0	7	24.8
35592 07	Blast cleaning machines (hydraulic, pneumatic, and airless)	14	70.4	8	61.4
35592 15	Other foundry machinery and equipment, including converters	29	87.7	22	54.8
35592 19	Parts for foundry machinery and equipment	31	83.9	22	47.5
35592 00	Foundry machinery and equipment, excluding patterns and molds, n.s.k.	(NA)	22.0	(NA)	16.9
35593	Plastics working machinery and equipment, excluding patterns and molds	(NA)	1 564.2	(NA)	¹ 234.4
35593 01	Compression molding machines	8	16.5	6	6.5
	Extrusion machines:				
	Single screw extruders:				
35593 03	Up to 2.49 inch screw diameter	15	42.3	12	17.0
35593 05	2.50 to 5.49 inch screw diameter	14	100.0	18	80.2
35593 07	5.50 inch screw diameter or larger	14	32.7	10	13.2
35593 09	Multiple screw extruders	6	12.0	5	28.7
	Injection molding machines:				
35593 11	500 tons or less	19	219.4	22	192.7
35593 13	More than 500 tons	7	136.0	11	123.9
35593 15	Blow molding machines	13	87.6	9	97.3
35593 17	Granulators and pelletizers	12	65.4	12	42.4
35593 19	Thermoforming machines	12	58.1	13	76.1
35593 21	Calendering or other rolling machines for working plastics	5	15.7	7	23.0
35593 23	Machines for cold working plastics drilling, milling, slicing, grinding, etc.	6	7.0	10	14.9
35593 25	Other machinery for working plastics or making products from plastics	88	370.3	70	268.3
35593 41	Parts for plastics working machinery	69	287.3	(NA)	177.4
35593 00	Plastics working machinery and equipment, excluding patterns and molds, n.s.k.....	(NA)	114.1	(NA)	72.9
35594	Rubber working machinery and equipment, excluding tire molds	(NA)	184.9	(NA)	196.2
35594 01	High-intensity solids mixers	6	15.4	5	24.7
35594 03	Extruding machines	8	6.5	7	8.7
35594 05	Tire building equipment, except tire molds	11	47.2	16	48.2
35594 07	Tire recapping and repairing machinery and equipment, including recapping vulcanizers	10	26.2	6	36.3
35594 16	Other machinery for working rubber or making products of rubber	29	44.9	(NA)	35.0
35594 25	Parts for rubber working machinery	21	27.1	(NA)	24.9
35594 00	Rubber working machinery and equipment, excluding tire molds, n.s.k.	(NA)	17.6	(NA)	18.4

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3559—	SPECIAL INDUSTRY MACHINERY, N.E.C.—Con.				
35595	Printed circuit board manufacturing machinery, except testing -----	(NA)	541.2	(NA)	427.6
35595 01	Surface mount machinery -----	32	176.9	25	347.6
35595 03	Through-hole machinery -----	35	203.3		
35595 05	Other printed circuit board manufacturing machinery and equipment.	42	95.0		
35595 09	Parts, attachments and accessories for printed circuit board manufacturing machinery and equipment -----	25	46.5		
35595 00	Printed circuit board manufacturing machinery, except testing, n.s.k.-----	(NA)	19.6	(NA)	(¹⁴)
35596	Semiconductor manufacturing equipment (except furnaces and ovens, instruments and photographs) -----	(NA)	2 274.2	(NA)	1 014.3
	Wafer processing equipment:				
	Microlithography:				
	Aligners:				
35596 01	Contact/proximity -----	2	11.7	(NA)	(¹⁵)
35596 03	Scan optical -----	2	2.5	(NA)	(¹⁵)
35596 05	Step and repeat -----	4	18.5	(NA)	(¹⁵)
35596 07	Other -----	3	5.1	(NA)	(¹⁵)
	Other lithography systems:				
35596 09	E-beam direct writers -----	(NA)	—	(NA)	(¹⁵)
35596 11	E-beam mask makers -----	1	21.3	(NA)	(¹⁵)
35596 13	Focused ion beam writers -----	(NA)	—	(NA)	1545.8
	Thin layer deposition:				
35596 15	Chemical vapor deposition -----	15	356.0	(NA)	133.9
35596 17	Physical vapor deposition -----	9	175.2		
35596 19	Epitaxial growth -----	8	70.2		
	Etch and strip:				
35596 21	Wet etch -----	10	79.2	10	42.9
35596 23	Plasma etch -----	6	227.2	(NA)	191.8
35596 25	Reactive ion etch -----	4	194.2		
35596 27	Stripping systems -----	2	5.1		
	Ion implantation:				
35596 29	Current ion implanters -----	2	78.0	(NA)	339.1
35596 31	Voltage ion implanters -----	2	62.0		
35596 33	Other wafer processing equipment -----	34	309.1		
	Assembly and packaging equipment:				
	Assembly:				
	Dicing:				
35596 35	Dicing saws -----	3	13.9	4	10.6
35596 37	Scribing/fracturing machines -----	2	5.5	3	1.2
	Bonding:				
35596 39	Die bonders -----	6	8.5	5	7.6
35596 41	Wire bonders -----	3	55.7	5	25.5
35596 43	Lead frame inserting machines -----	(NA)	—	(NA)	—
	Packaging:				
35596 45	Surface mounted (chip) placement machines (mold and seal) --	3	37.5	(NA)	28.7
35596 47	Finish and mark equipment -----	2	8.6		
35596 49	Other assembly and packaging equipment -----	24	183.8		
35596 51	Parts for semiconductor manufacturing machinery -----	24	286.2	12	43.4
35596 00	Semiconductor manufacturing equipment (except furnaces and ovens, instruments and photographs), n.s.k.-----	(NA)	59.2	27	69.8
35597	Automotive maintenance equipment, except handtools -----	(NA)	463.7	(NA)	374.2
35597 01	Frame and body alignment equipment -----	7	49.1	9	173.6
35597 02	Wheel alignment equipment -----	6	125.1		
35597 03	Wheel balancing equipment -----	6	40.7		
35597 04	Tire and wheel mounting equipment -----	3	38.7		
35597 05	Brake service equipment -----	10	54.6	8	34.1
35597 09	All other automotive maintenance equipment, except handtools-----	26	83.2	19	46.6
35597 11	Parts and attachments for automotive maintenance equipment, excluding handtools (sold separately) -----	13	54.7	6	13.5
35597 00	Automotive maintenance equipment, except handtools, n.s.k.-----	(NA)	17.7	(NA)	10.4
35598	Special industry machinery and equipment, n.e.c. -----	(NA)	2 901.1	(NA)	2 545.6
35598 01	Petroleum refining machinery -----	26	163.9	12	93.9
35598 03	Parts for petroleum refining machinery -----	11	100.5	13	37.2
35598 05	Ammunition and explosive loading machinery -----	9	19.4	6	25.3
35598 07	Parts for ammunition and explosive loading machinery -----	2	1.4	5	1.0
35598 09	Tobacco processing machinery -----	13	25.2	8	22.1
35598 11	Parts for tobacco processing machinery -----	9	10.0	11	5.3
	Machines for working stone, ceramics, or like mineral materials including glass:				
35598 13	Sawing machines -----	5	8.7	3	5.3
	Grinding or polishing machines:				
35598 15	Glass working -----	3	1.8	9	56.5
35598 17	Other -----	10	15.7	7	8.5
	Other machines:				
35598 19	Glass working -----	11	59.7	8	22.8
35598 22	Other -----	17	33.7	7	8.8
35598 25	Parts -----	15	21.3	10	9.6
35598 27	Clay products forming equipment (brick, tile, ceramic)-----	13	30.7	11	17.8
35598 29	Parts for clay products forming equipment -----	5	15.8	7	16.9
	Concrete products forming equipment:				
35598 31	Concrete block equipment -----	5	32.0	4	28.1
35598 35	Other concrete products equipment -----	10	18.5	11	28.2
35598 36	Parts for concrete products forming equipment -----	8	53.6	(NA)	52.7
35598 39	Cement making machinery -----	5	22.1	5	6.2
35598 41	Parts for cement making machinery -----	4	11.3	6	11.0
35598 43	Glass making machinery and equipment, including machines for hot working glass or glassware -----	19	190.5	20	168.0
35598 45	Parts for glass making machinery and equipment -----	13	83.0	12	51.5
35598 48	Machines for assembling electric or electronic lamps, tubes, or flashbulbs in glass envelopes -----	3	2.1	(NA)	(¹⁶)

See footnotes at end of table.

35D-22 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3559—	SPECIAL INDUSTRY MACHINERY, N.E.C.—Con.				
35598	Special industry machinery and equipment, n.e.c.—Con.				
35598 51	Parts for machines for assembling electric or electronic lamps, tubes, or flashbulbs in glass envelopes.....	—	(Z)	4	(¹⁶)
35598 53	Cotton ginning machinery.....	7	66.4	8	49.3
35598 55	Parts for cotton ginning machinery.....	6	24.5	4	14.1
35598 58	Fuel-fired kilns for cement, wood, and chemical processing and parts thereof.....	12	35.6	(NA)	23.1
35598 61	Electroplating equipment (except rolling mill lines).....	20	46.0	16	22.2
35598 63	Parts for electroplating equipment.....	6	7.8	6	5.9
	Metal finishing equipment, except electroplating and rolling mill:				
35598 65	Vibratory finishing machines.....	7	9.8	5	12.9
35598 67	Plating equipment.....	14	21.0	10	40.4
35598 69	Other equipment.....	29	113.4	24	83.4
35598 71	Parts for metal finishing equipment.....	14	12.6	14	69.4
35598 74	Metal degreasing machines and parts thereof.....	15	31.5	(NA)	28.7
35598 78	Desalinization equipment and parts thereof.....	9	118.1	(NA)	(¹⁶)
35598 84	Footwear manufacturing or repairing machinery and parts thereof.....	10	19.3	(NA)	(¹⁶)
	Industrial sewing machines, excluding shoe sole stitching machines:				
35598 88	Industrial sewing machine heads.....	10	11.9	8	21.8
35598 89	Industrial sewing machinery, except heads.....	20	72.4	17	¹⁶ 65.1
35598 90	Parts and attachments for industrial sewing machinery.....	21	63.2	18	79.7
35598 91	Machines for insulating electrical wire for cable and parts thereof.....	5	20.7	(NA)	11.5
35598 96	Electric battery manufacturing machinery.....	12	23.9	10	17.5
35598 97	Parts for battery making machines.....	6	8.2	6	5.1
35598 98	Special industry machinery, not elsewhere classified, and parts thereof.....	342	1 210.6	(NA)	¹⁶ 1 273.5
35598 00	Special industry machinery and equipment, n.e.c., n.s.k.....	(NA)	63.2	(NA)	¹⁴ 45.2
35590	Special industry machinery, n.e.c., n.s.k.....	(NA)	1 465.0	(NA)	¹ 198.1
35590 00	Special industry machinery, n.e.c., n.s.k. ³	(NA)	1 242.8	(NA)	¹⁸ 53.6
35590 02	Special industry machinery, n.e.c., n.s.k. ⁴	(NA)	222.2	(NA)	344.5

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For 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: *10 to 19 percent estimated; **20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³Typically for establishments with 5 employees or more.

⁴Typically for establishments with less than 5 employees.

⁵For 1992, product codes are combined to avoid disclosing data for individual companies.

⁶For 1987, product codes were combined to avoid disclosing data for individual companies.

⁷For 1987, product codes were combined to avoid disclosing data for individual companies.

⁸Typically for establishments with 10 employees or more.

⁹Typically for establishments with less than 10 employees.

¹⁰For 1987, product codes were combined to avoid disclosing data for individual companies.

¹¹For 1992, product codes are combined to avoid disclosing data for individual companies.

¹²For 1987, product codes were combined to avoid disclosing data for individual companies.

¹³For 1992, product codes are combined to avoid disclosing data for individual companies.

¹⁴For 1987, product codes were combined to avoid disclosing data for individual companies.

¹⁵For 1987, product codes were combined to avoid disclosing data for individual companies.

¹⁶For 1987, product codes were combined to avoid disclosing data for individual companies.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987

[Million dollars. Product classes shown are those where the data are 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 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
35521, TEXTILE MACHINERY, EXCEPT PARTS, ATTACHMENTS, AND ACCESSORIES			35522, PARTS AND ATTACHMENTS FOR TEXTILE MACHINERY		
United States.....	697.0	515.4	United States.....	473.8	433.9
Georgia.....	44.1	54.9	Connecticut.....	24.1	12.9
Kentucky.....	9.7	(NA)	Georgia.....	37.4	20.5
Massachusetts.....	15.8	12.1	Massachusetts.....	17.3	26.7
New Jersey.....	30.9	(NA)	New Jersey.....	5.2	7.7
New York.....	41.1	35.5	New York.....	20.8	20.8
North Carolina.....	209.9	134.4	North Carolina.....	174.4	143.8
Ohio.....	13.1	7.3	Ohio.....	2.4	(NA)
Pennsylvania.....	18.0	18.1	Pennsylvania.....	7.8	6.8
South Carolina.....	137.9	103.4	Rhode Island.....	2.4	6.5
Tennessee.....	26.0	(NA)	South Carolina.....	152.5	154.5
			Tennessee.....	5.5	9.3

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are 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 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
35533, WOODWORKING MACHINERY, INCLUDING PARTS, ATTACHMENTS, AND ACCESSORIES			35556, BINDING MACHINERY AND EQUIPMENT, INCLUDING PAPER CUTTING AND COLLATING OR GATHERING MACHINES		
United States	479.0	476.0	United States	171.0	276.1
Alabama	3.4	(NA)	Illinois	18.7	67.9
Arizona	6.0	(NA)	Michigan	23.9	(NA)
California	28.5	25.8	Ohio	39.9	(NA)
Florida	4.6	(NA)			
Idaho	6.0	(NA)	35558, PRINTING TRADES MACHINERY, N.E.C.		
Illinois	11.0	13.9	United States	828.0	784.5
Indiana	45.2	24.4	California	36.7	22.9
Michigan	11.1	14.3	Connecticut	33.8	35.1
Minnesota	28.4	30.3	Florida	12.3	36.3
Mississippi	50.3	(NA)	Georgia	7.4	(NA)
North Carolina	39.8	34.6	Illinois	80.6	88.3
Oregon	86.6	86.1	Indiana	19.5	12.2
Pennsylvania	9.9	17.2	Kansas	19.5	(NA)
Tennessee	17.5	21.6	Massachusetts	67.4	121.4
Wisconsin	18.8	20.2	Michigan	20.8	9.8
			Minnesota	27.1	27.8
35534, WOODWORKING MACHINERY FOR HOME WORKSHOPS, GARAGES, SERVICE SHOPS			Missouri	33.1	12.0
United States	181.6	199.1	New Hampshire	76.6	35.9
			New Jersey	28.5	49.6
35543, PAPER INDUSTRIES MACHINERY			New York	50.7	58.0
United States	1 375.4	936.1	North Carolina	19.6	9.4
Alabama	11.1	(NA)	Ohio	84.9	36.2
California	6.0	(NA)	Pennsylvania	31.6	35.6
Connecticut	19.8	(NA)	Texas	32.6	20.5
Illinois	27.6	6.4	Virginia	11.7	7.7
Indiana	16.3	(NA)	Wisconsin	63.0	67.3
Kansas	8.6	10.8			
Maryland	42.6	17.6	35561, DAIRY AND MILK PRODUCTS PLANT MACHINERY AND EQUIPMENT, EXCEPT BOTTLING AND PACKAGING		
Massachusetts	89.2	73.4	United States	261.7	262.3
Michigan	16.7	(NA)	California	3.9	(NA)
New Hampshire	49.5	37.0	Minnesota	16.8	(NA)
New York	62.2	55.6	New York	2.8	7.6
Ohio	76.5	86.8	Wisconsin	117.0	59.3
Pennsylvania	79.7	35.3			
South Carolina	20.3	4.1	35562, COMMERCIAL FOOD PRODUCTS MACHINERY, EXCEPT PACKAGING MACHINERY AND FOOD COOKING AND WARMING EQUIPMENT		
Washington	48.8	28.9	United States	750.9	619.5
Wisconsin	444.5	346.5	California	28.1	35.8
			Illinois	88.9	33.5
35544, PARTS AND ATTACHMENTS FOR PAPER INDUSTRIES MACHINERY (SOLD SEPARATELY)			Indiana	73.6	67.9
United States	690.7	507.8	Iowa	8.0	(NA)
Alabama	11.2	(NA)	Kentucky	31.6	(NA)
Georgia	9.7	(NA)	Massachusetts	4.4	7.0
Indiana	5.5	6.1	Minnesota	13.6	(NA)
Massachusetts	72.8	77.5	New Jersey	11.7	(NA)
New Hampshire	38.3	21.6	New York	9.5	19.2
New Jersey	63.7	17.9	Ohio	160.1	201.7
New York	50.6	40.8	Pennsylvania	32.3	15.2
Ohio	42.3	27.7	Texas	2.6	7.9
Oregon	21.8	11.7	Wisconsin	20.9	14.2
Pennsylvania	19.3	83.5			
Washington	22.9	15.4	35563, INDUSTRIAL MACHINERY AND EQUIPMENT FOR MANUFACTURING OR PROCESSING FOODS, BEVERAGES, AND ANIMAL OR FOWL FEED		
Wisconsin	237.0	133.4	United States	814.4	559.8
			California	120.8	60.5
35551, PRINTING PRESSES, OFFSET LITHOGRAPHIC			Florida	34.3	31.2
United States	616.5	724.4	Georgia	73.1	49.4
New York	10.8	44.0	Idaho	6.1	(NA)
			Illinois	30.4	55.7
35552, PRINTING PRESSES, OTHER THAN LITHOGRAPHIC			Iowa	51.0	35.2
United States	302.2	175.9	Kansas	37.0	(NA)
Illinois	44.0	(NA)	Louisiana	11.0	14.6
Massachusetts	22.6	9.2	Massachusetts	8.7	7.2
Pennsylvania	40.1	(NA)	Michigan	18.6	(NA)
Wisconsin	31.9	(NA)	Minnesota	18.0	(NA)
			Mississippi	4.0	(NA)
35553, TYPESETTING MACHINERY, EXCLUDING JUSTIFYING TYPEWRITERS			Missouri	12.7	4.8
United States	133.4	333.1	Nebraska	16.0	(NA)
California	51.1	(NA)	New York	27.4	14.2
Massachusetts	35.5	(NA)			
New Jersey	46.7	(NA)			

See footnotes at end of table.

35D-24 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 6b. **Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.**

[Million dollars. Product classes shown are those where the data are 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 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
35563, INDUSTRIAL MACHINERY AND EQUIPMENT FOR MANUFACTURING OR PROCESSING FOODS, BEVERAGES, AND ANIMAL OR FOWL FEED—Con.			35595, PRINTED CIRCUIT BOARD MANUFACTURING MACHINERY, EXCEPT TESTING		
North Carolina	24.5	15.9	United States	541.2	427.6
Ohio	87.7	75.7	California	170.7	(NA)
Oregon	15.8	(NA)	Florida	20.1	(NA)
Pennsylvania	32.8	21.0	Massachusetts	58.7	(NA)
Tennessee	2.4	(NA)	Michigan	2.7	(NA)
Texas	18.1	17.0	Minnesota	24.5	(NA)
Virginia	20.3	11.3	New Jersey	14.5	(NA)
Washington	23.7	(NA)	Ohio	10.5	(NA)
Wisconsin	34.2	21.9	Pennsylvania	83.2	(NA)
35591, CHEMICAL MANUFACTURING MACHINERY, EQUIPMENT, AND PARTS			35596, SEMICONDUCTOR MANUFACTURING EQUIPMENT (EXCEPT FURNACES AND OVENS, INSTRUMENTS AND PHOTOGRAPHICS)		
United States	821.5	719.7	United States	2 274.2	1 014.3
California	53.8	52.2	Arizona	72.2	20.4
Florida	18.3	(NA)	California	1 377.6	568.4
Illinois	42.2	(NA)	Massachusetts	156.6	139.8
Kentucky	16.9	(NA)	New Jersey	39.6	38.8
Massachusetts	27.8	(NA)	Pennsylvania	112.9	57.5
Missouri	3.5	(NA)	Texas	90.6	32.3
New Jersey	46.6	91.1	35597, AUTOMOTIVE MAINTENANCE EQUIPMENT, EXCEPT HANDTOOLS		
New York	33.5	126.2	United States	463.7	374.2
North Carolina	23.1	4.2	Indiana	14.9	(NA)
Ohio	101.2	82.6	Kansas	6.9	(NA)
Oklahoma	40.1	(NA)	Michigan	23.6	(NA)
Pennsylvania	138.6	83.3	Minnesota	14.0	6.8
Texas	19.4	10.5	35598, SPECIAL INDUSTRY MACHINERY AND EQUIPMENT, N.E.C.		
35592, FOUNDRY MACHINERY AND EQUIPMENT, EXCLUDING PATTERNS AND MOLDS			United States	2 901.1	2 545.6
United States	319.0	240.9	Arizona	28.7	(NA)
Illinois	51.5	37.3	California	207.8	(NA)
Michigan	53.6	20.0	Colorado	15.6	(NA)
Missouri	27.7	(NA)	Connecticut	213.6	(NA)
Ohio	27.5	36.7	Florida	69.6	(NA)
Pennsylvania	13.1	14.9	Georgia	79.9	(NA)
Wisconsin	13.6	(NA)	Illinois	242.5	(NA)
35593, PLASTICS WORKING MACHINERY AND EQUIPMENT, EXCLUDING PATTERNS AND MOLDS			Indiana	134.0	(NA)
United States	1 564.2	1 234.4	Iowa	42.0	(NA)
California	18.3	14.8	Kansas	4.8	(NA)
Connecticut	60.7	66.8	Kentucky	25.6	(NA)
Florida	11.8	7.3	Louisiana	28.5	(NA)
Illinois	46.8	27.7	Massachusetts	192.6	(NA)
Kansas	13.0	7.8	Michigan	327.5	(NA)
Massachusetts	153.7	135.0	Minnesota	44.0	(NA)
Michigan	216.4	151.1	Missouri	28.0	(NA)
Missouri	5.0	(NA)	New Jersey	126.7	(NA)
New Jersey	115.9	127.6	New York	41.9	(NA)
New York	55.5	21.6	North Carolina	53.0	(NA)
North Carolina	23.4	4.9	Ohio	202.8	(NA)
Ohio	478.8	398.3	Oklahoma	131.2	(NA)
Pennsylvania	140.0	118.2	Oregon	8.6	(NA)
Tennessee	13.5	(NA)	Pennsylvania	123.2	(NA)
Texas	9.1	13.3	South Carolina	4.7	(NA)
Virginia	37.5	(NA)	Tennessee	50.1	(NA)
Wisconsin	28.1	18.7	Texas	181.9	(NA)
35594, RUBBER WORKING MACHINERY AND EQUIPMENT, EXCLUDING TIRE MOLDS			Virginia	37.2	(NA)
United States	184.9	196.2	Washington	77.2	(NA)
California	6.0	11.9	Wisconsin	94.4	(NA)
New Jersey	3.8	(NA)			
Ohio	85.5	78.0			
Pennsylvania	9.3	9.2			

Note: For qualifications of data, see footnotes on table 6a.

Table 6c. Historical Statistics for Product Classes—Value Shipped by All Producers: 1992 and Earlier Years

[Million dollars. For meaning of abbreviations and symbols, see introductory text]

Product code	Product class	1992	1991 ¹	1990 ¹	1989 ¹	1988 ¹	1987	1982	1977
3552-	Textile machinery	1 327.6	1 234.9	1 324.7	1 338.4	1 311.8	1 104.2	965.5	857.1
35521	Textile machinery, except parts, attachments, and accessories	697.0	626.8	702.1	657.0	631.8	515.4	454.3	361.6
35522	Parts and attachments for textile machinery	473.8	492.1	501.2	528.1	517.7	433.9	390.0	405.2
35520	Textile machinery, n.s.k.	156.9	116.0	121.4	153.3	162.4	154.9	121.3	90.3
3553-	Woodworking machinery	775.3	667.0	780.6	935.1	793.5	793.4	(NA)	(NA)
35533	Woodworking machinery, including parts, attachments, and accessories	479.0	362.8	445.5	582.0	496.4	476.0	288.2	301.1
35534	Woodworking machinery for home workshops, garages, service shops	181.6	168.9	188.0	187.5	179.5	199.1	(NA)	(NA)
35530	Woodworking machinery, n.s.k.	114.7	135.3	147.1	165.6	117.6	118.3	(NA)	(NA)
3554-	Paper industries machinery	2 229.8	2 061.3	2 453.4	2 237.6	1 832.2	1 580.7	1 199.0	698.3
35543	Paper industries machinery	1 375.4	1 222.9	1 552.0	1 465.1	1 177.2	936.1	870.7	} 698.3
35544	Parts and attachments for paper industries machinery (sold separately)	690.7	626.1	650.7	597.8	536.4	507.8	258.9	
35540	Paper industries machinery, n.s.k.	163.7	212.3	250.7	174.7	118.6	136.9	69.4	
3555-	Printing trades machinery	2 301.3	3 171.3	3 141.1	3 302.5	2 783.0	2 554.3	1 971.8	
35551	Printing presses, offset lithographic	616.5	999.5	837.3	1 029.8	859.0	724.4	665.0	290.9
35552	Printing presses, other than lithographic	302.2	233.5	225.8	258.5	181.0	175.9	148.9	121.3
35553	Typesetting machinery, excluding justifying typewriters	133.4	303.1	288.6	306.9	333.9	333.1	303.4	252.8
35556	Binding machinery and equipment, including paper cutting and collating or gathering machines	171.0	356.0	364.2	357.8	277.6	276.1	171.6	68.4
35558	Printing trades machinery, n.e.c.	828.0	1 056.4	1 135.8	1 091.9	877.2	784.5	567.0	344.7
35550	Printing trades machinery, n.s.k.	250.2	222.9	289.4	257.6	254.2	260.3	116.0	90.7
3556-	Food products machinery	2 113.3	1 969.5	1 953.6	1 881.4	1 780.4	1 735.2	(NA)	(NA)
35561	Dairy and milk products plant machinery and equipment, except bottling and packaging	261.7	222.8	240.0	327.7	286.4	262.3	176.4	128.5
35562	Commercial food products machinery, except packaging machinery and food cooking and warming equipment	750.9	554.0	569.0	592.7	629.7	619.5	479.7	357.2
35563	Industrial machinery and equipment for manufacturing or processing foods, beverages, and animal or fowl feed	814.4	794.5	767.6	698.6	584.5	559.8	585.6	426.5
35560	Food products machinery, n.s.k.	286.3	398.1	377.0	262.4	279.7	293.6	(NA)	(NA)
3559-	Special industry machinery, n.e.c.	10 534.9	9 755.3	9 886.8	9 576.6	9 193.9	7 951.0	(NA)	(NA)
35591	Chemical manufacturing machinery, equipment, and parts	821.5	905.7	977.1	864.2	812.2	719.7	(NA)	(NA)
35592	Foundry machinery and equipment, excluding patterns and molds	319.0	344.7	298.5	303.4	274.4	240.9	260.0	319.2
35593	Plastics working machinery and equipment, excluding patterns and molds	1 564.2	1 359.0	1 394.8	1 407.0	1 359.6	1 234.4	785.7	669.6
35594	Rubber working machinery and equipment, excluding tire molds	184.9	187.2	265.9	241.7	248.8	196.2	187.0	158.1
35595	Printed circuit board manufacturing machinery, except testing	541.2	(NA)	(NA)	(NA)	(NA)	427.6	(NA)	(NA)
35596	Semiconductor manufacturing equipment (except furnaces and ovens, instruments and photographic)	2 274.2	2 030.6	1 899.4	1 770.3	1 430.5	1 014.3	815.3	(NA)
35597	Automotive maintenance equipment, except handtools	463.7	324.2	358.5	391.2	389.3	374.2	200.3	188.0
35598	Special industry machinery and equipment, n.e.c.	2 901.1	(NA)	(NA)	(NA)	(NA)	2 545.6	(NA)	(NA)
35590	Special industry machinery, n.e.c., n.s.k.	1 465.0	1 146.9	1 274.7	1 178.8	1 275.2	1 198.1	(NA)	(NA)

¹Figures are estimates derived from a representative sample of manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures publications for this period.

Table 7. Materials Consumed by Kind: 1992 and 1987

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3552, TEXTILE MACHINERY			
Materials, ingredients, containers, and supplies		509.1	457.6
190090	Fluid power products	25.8	(¹)
340075	Fabricated metal products, except forgings	31.4	(¹)
346000	Forgings	6.4	(¹)
Castings (rough and semifinished):			
332001	Iron and steel	14.8	27.0
336005	Aluminum and aluminum-base alloy	4.8	5.4
336003	Other nonferrous castings	1.1	2.0
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates	24.7	} 92.5
331022	Sheet and strip	10.4	
331023	Structural shapes and sheet piling	4.3	
331027	Wire and wire products	26.5	
331088	All other steel shapes and forms	11.8	
335010	Aluminum and aluminum-base alloy	9.2	7.8
335091	All other nonferrous shapes and forms	3.1	(¹)
362120	Integral horsepower electric motors and generators (1 hp or more)	8.9	8.9
Bearings (mounted or unmounted):			
356218	Ball	6.4	5.4
356201	Roller	1.8	3.5
356023	Speed reducers, gears, drives, and other mechanical power transmission equipment, except bearings	15.2	13.2
308006	Fabricated plastics products, except gaskets	4.5	5.5
360101	Electrical transmission, distribution, and control equipment	39.6	26.8
970099	All other materials and components, parts, containers, and supplies	142.2	139.2
971000	Materials, ingredients, containers, and supplies, n.s.k. ²	116.2	120.4

See footnotes at end of table.

35D-26 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3553, WOODWORKING MACHINERY			
Materials, ingredients, containers, and supplies -----		334.0	356.4
Pumps:			
359412	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions-----	5.8	2.1
356102	All other pumps-----	.2	(¹)
Fluid power products (hydraulic and pneumatic), except pumps and motors:			
349271	Valves-----	3.1	2.5
349261	Hose or tube fittings and assemblies-----	1.4	.8
359301	Cylinders and rotary actuators-----	4.5	3.2
356921	Filters-----	1.0	.2
190089	Other fluid power products-----	1.4	1.2
340075	Fabricated metal products, except forgings-----	14.6	(¹)
346000	Forgings-----	.5	(¹)
Castings (rough and semifinished):			
332001	Iron and steel-----	23.5	18.2
336005	Aluminum and aluminum-base alloy-----	6.9	6.6
336003	Other nonferrous-----	(²)	(¹)
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates-----	33.5	56.0
331022	Sheet and strip-----	9.5	
331034	Other steel shapes and forms-----	4.9	
336002	Nonferrous shapes and forms-----	2.3	(¹)
Electric motors and generators:			
362115	Fractional horsepower electric motors, excluding timing motors-----	14.2	18.2
362120	Integral horsepower electric motors and generators (1 hp or more)-----	33.5	15.1
Bearings (mounted or unmounted):			
356218	Ball-----	7.2	4.7
356201	Roller-----	2.3	4.2
308006	Fabricated plastics products, except gaskets-----	4.9	4.1
357004	Electronic computing equipment and parts-----	6.2	2.7
360101	Electrical transmission, distribution, and control equipment-----	11.6	3.6
362522	Numerical controls for woodworking machinery and equipment-----	2.2	3.7
265001	Paperboard containers, boxes, and corrugated paperboard-----	5.9	9.3
970099	All other materials and components, parts, containers, and supplies-----	³ 49.7	¹ 91.8
971000	Materials, ingredients, containers, and supplies, n.s.k. ² -----	83.3	108.2
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY			
Materials, ingredients, containers, and supplies -----		968.1	656.6
Pumps:			
359412	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions-----	8.0	4.3
356102	All other pumps-----	.4	(¹)
Fluid power products (hydraulic and pneumatic) except pumps and motors:			
349271	Valves-----	9.5	3.6
349261	Hose or tube fittings and assemblies-----	7.6	5.5
359301	Cylinders and rotary actuators-----	9.6	3.8
356921	Filters-----	.5	(¹)
190089	Other fluid power products-----	4.6	(¹)
340075	Fabricated metal products, except forgings-----	46.9	(¹)
346000	Forgings-----	7.3	(¹)
Castings (rough and semifinished):			
332001	Iron and steel-----	35.2	33.1
336010	Nonferrous-----	15.3	16.1
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates-----	65.8	80.8
331022	Sheet and strip-----	19.1	
331034	All other steel shapes and forms-----	13.0	
336002	Nonferrous shapes and forms-----	7.9	(¹)
362120	Integral horsepower electric motors and generators (1 hp or more)-----	14.2	14.3
Bearings (mounted or unmounted):			
356218	Ball-----	8.2	6.4
356201	Roller-----	7.8	10.8
356810	Plain bearings and bushings-----	7.0	5.3
356601	Speed changers, gears, and industrial high-speed drives-----	28.1	19.6
360101	Electrical transmission, distribution, and control equipment-----	53.3	25.5
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets-----	9.9	10.7
970099	All other materials and components, parts, containers, and supplies-----	478.8	¹ 288.3
971000	Materials, ingredients, containers, and supplies, n.s.k. ² -----	110.0	128.5
INDUSTRY 3555, PRINTING TRADES MACHINERY			
Materials, ingredients, containers, and supplies -----		1 078.7	1 084.4
190090	Fluid power products-----	29.7	(¹)
340075	Fabricated metal products, except forgings-----	98.3	(¹)
346000	Forgings-----	5.2	(¹)
Castings (rough and semifinished):			
332001	Iron and steel-----	47.7	48.0
336010	Nonferrous-----	4.7	7.9
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates-----	47.0	66.8
331087	All other-----	16.4	
335010	Aluminum and aluminum-base alloy-----	13.1	21.5
335091	Other nonferrous-----	3.0	(¹)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3555, PRINTING TRADES MACHINERY—Con.			
Electric motors and generators:			
362115	Fractional horsepower electric motors, excluding timing motors -----	12.5	18.6
362120	Integral horsepower electric motors and generators (1 hp or more) -----	15.2	13.6
Bearings (mounted or unmounted):			
356218	Ball -----	16.6	10.0
356201	Roller -----	7.8	6.0
356601	Speed changers, gears, and industrial high-speed drives -----	66.0	39.6
360101	Electrical transmission, distribution, and control equipment -----	80.7	119.1
970099	All other materials and components, parts, containers, and supplies -----	443.4	1471.2
971000	Materials, ingredients, containers, and supplies, n.s.k. ² -----	171.5	262.1
INDUSTRY 3556, FOOD PRODUCTS MACHINERY			
Materials, ingredients, containers, and supplies -----		834.3	720.4
Pumps:			
359412	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions -----	9.2	4.8
356102	All other pumps -----	9.9	(NA)
Fluid power products, hydraulic and pneumatic, except pumps and motors:			
349271	Valves -----	9.9	4.4
359301	Cylinders and rotary actuators -----	3.8	(¹)
349261	Hose or tube fittings and assemblies -----	4.7	3.3
356921	Filters -----	2.5	(¹)
190089	Other fluid power products -----	1.4	(¹)
Fabricated metal products, except forgings:			
344310	Metal tanks, heat exchangers, steam condensers, and other boiler products; fabricated steel plate and weldments -----	13.7	6.1
340076	All other fabricated metal products -----	35.1	(¹)
346000	Forgings -----	2.6	(¹)
Castings, rough and semifinished:			
Iron and steel -----			
332001	Iron and steel -----	27.5	30.5
336005	Aluminum and aluminum-base alloy -----	10.9	10.4
336003	All other nonferrous castings -----	5.6	(¹)
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates -----	47.8	127.6
331022	Sheet and strip -----	52.2	
331034	All other steel shapes and forms -----	20.6	
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	16.2	6.7
335011	All other (except sheet, plate, foil, and welded tubing) -----	8.0	8.3
335091	Other nonferrous -----	11.4	(¹)
Electric motors and generators:			
362115	Fractional horsepower electric motors, excluding timing motors -----	7.5	8.7
362120	Integral horsepower electric motors and generators (1 hp or more) -----	24.2	14.9
356200	Ball and roller bearings (mounted or unmounted) -----	12.5	8.7
356601	Speed changers, gears, and industrial high-speed drives -----	20.0	20.1
360101	Electrical transmission, distribution, and control equipment -----	33.1	20.2
244021	Wood boxes, pallets, skids, and containers -----	3.8	(¹)
970099	All other materials and components, parts, containers, and supplies -----	264.3	1253.9
971000	Materials, ingredients, containers, and supplies, n.s.k. ² -----	175.7	191.8
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.			
Materials, ingredients, containers, and supplies -----		4 299.3	3 054.9
360101	Electrical transmission, distribution, and control equipment -----	226.9	152.8
Pumps, complete assemblies:			
359412	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions -----	88.2	16.4
356101	Other pumps and pump parts, except fluid power -----	71.7	42.1
Fluid power products (hydraulic and pneumatic), except pumps and motors:			
349271	Valves -----	55.5	21.7
359301	Cylinders and rotary actuators -----	40.9	20.9
349261	Hose or tube fittings and assemblies -----	25.7	(¹)
356921	Filters -----	11.0	3.7
190089	Other fluid power products -----	27.6	(¹)
Fabricated metal products, except forgings:			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	70.2	26.7
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products; fabricated steel plate, and weldments -----	92.9	46.8
349402	Pipe, valves, and pipe fittings -----	57.6	26.3
340072	Other fabricated metal products, except fluid power -----	205.8	9.7
346000	Forgings -----	16.3	(¹)
Castings (rough and semifinished):			
Iron and steel -----			
332001	Iron and steel -----	185.3	61.5
336005	Aluminum and aluminum-base alloy -----	28.4	21.9
336003	Other nonferrous -----	29.1	6.7
Shapes and forms, except castings, forgings and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates -----	169.1	351.3
331022	Sheet and strip -----	106.5	
331023	Structural shapes and sheet piling -----	34.9	
331091	All other steel shapes and forms -----	61.5	
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	62.0	20.9
335011	All other (except sheet, plate, foil, and welded tubing) -----	55.8	21.4
335091	Other nonferrous -----	29.0	16.0

See footnotes at end of table.

35D-28 SPECIAL INDUSTRY MACHINERY

MANUFACTURES—INDUSTRY SERIES

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
	INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.— Con.		
	Electric motors and generators:		
362115	Fractional horsepower electric motors, excluding timing motors -----	36.7	21.1
362120	Integral horsepower electric motors and generators (1 hp or more) -----	69.8	42.8
356200	Ball and roller bearings (mounted or unmounted) -----	42.4	22.0
356601	Speed changers, gears, and industrial high-speed drives -----	55.0	33.4
356301	Air and gas compressors except refrigeration compressors -----	4.0	4.3
262195	Filter paper -----	113.8	(¹)
970099	All other materials and components, parts, containers, and supplies -----	1 099.4	¹ 925.2
971000	Materials, ingredients, containers, and supplies, n.s.k. ² -----	1 126.4	¹ 139.3

¹For 1987, material codes were combined to avoid disclosing data for individual companies.

²Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

³For 1992, material codes are combined to avoid disclosing data for individual companies.

Appendix A.

Explanation of Terms

This appendix is in two sections. Section 1 includes items requested of all establishments mailed census of manufactures forms including annual survey of manufactures (ASM) forms. Note that this section also includes several items (number of establishments and companies, value added, classes of products, and specialization and coverage ratios) not included on the report forms but derived from information collected on the forms. Section 2 covers supplementary items requested only from establishments included in the ASM sample. Results of the supplementary ASM inquiries are included in table 3c of this report.

SECTION 1. ITEMS COLLECTED OR DERIVED BASED ON ALL CENSUS OF MANUFACTURES (INCLUDING ASM) REPORT FORMS

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.

In this report, data are shown for establishments in operation at any time during the year. A comparison with the number of establishments in operation at the end of the year will be provided in the Introduction of the *General Summary* subject report.

Employment and related items. The report forms requested separate information on production workers for a specific payroll period within each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees. This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave,

paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

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

All other employees. This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver salespersons), sales delivery (highway truckdrivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office function, 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 to the plant and utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls also was requested of auxiliary units (e.g., administrative offices, warehouses, and research and development

laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the *General Summary* and geographic area reports as a separate category.

Payroll. This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year 1992. 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' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate auxiliary units of multiestablishment companies are not included in the totals for individual industries or industry groups.

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.

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.

The important components of this cost item are (1) 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) electric energy purchased, (3) fuels consumed for heat, power, or the generation of electricity, (4) work done by

others on materials or parts furnished by manufacturing establishments (contract work), and (5) products bought and resold in the same condition. (See discussion of duplication of data below.)

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. Information on the establishments consuming less than a specified amount (usually \$25,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which either administrative records or short forms were used was imputed as "not specified by kind." (See Census of Manufactures for the importance of administrative records in the industry.)

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 resold without further processing. Included are all items made by or for the establishments from materials 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. (See discussion of duplication of data below.)

Individual products. As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1992 census program, information was collected on the output of almost 11,000 individual product items. The term "product," as used in the census of manufactures, represents the finest level of detail for which output information was requested. Consequently, it is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases, it may be much more detailed and, in other cases, it is more aggregative. For example, "pharmaceutical preparations" was distributed into over 100 terms; whereas, "motor gasoline" was reported as a single item.

Approximately 6,300 of the product items were listed separately on the 1992 census report forms. Data for

about 4,500 products were obtained in the monthly, quarterly, or annual surveys comprising the Current Industrial Reports series of the Census Bureau. Totals for the year 1992 for these items, as derived from the commodity surveys, are shown in the "products shipped" table.

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 1987 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 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.

Classes of products. To summarize the product information, the separate products were aggregated into classes of products that, in turn, were grouped into all primary products of each industry. The code structure used is a seven-digit number for the individual product, a five-digit number for the class of product, and a four-digit number for the total primary products in an industry. (See Census of Manufactures, Industry Classification of Establishments, for application of the coding structure to the assignment of SIC codes for establishments.)

In the 1992 census, the 11,000 products were grouped into approximately 1,500 separate classes on the basis of general similarity of manufacturing processes, types of materials used, etc. However, the grouping of products was affected by the economic significance of the class and, in some cases, dissimilar products were grouped because the products were not sufficiently significant to warrant separate classes.

Duplication in cost of materials and value of shipments. 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.

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

For those industries where value of production is collected instead of value of shipments (see footnote in table 1a), 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.

New and used capital expenditures. For establishments in operation and any known plants under construction, manufacturers were asked to report their new 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.

The totals for new expenditures include expenditures 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 used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers also were requested to report the value of all used buildings and equipment purchased during the year at the purchase price. 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. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. The data for total new capital expenditures, new building expenditures, and new machinery expenditures, as well as the data for total used expenditures, are shown in table 3b.

End-of-year inventories. Respondents were asked to report their 1991 and 1992 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). 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.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORMS

The following items were collected only from establishments included in the ASM sample:

Supplemental labor costs. Supplemental labor costs 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

Because of this change in reporting instructions, the 1982 through 1992 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown in table 1a of this report and in historical census of manufactures and annual survey of manufactures publications.

In using inventory data by stage of fabrication for "all industries" and at the two-digit industry 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 another 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 individual industries, industry groups, and "all manufacturing", which are aggregates of figures reported by establishments in specified industries.

Specialization and coverage ratios. These items are not collected on the report forms but are derived from the data shown in table 5b. 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 5a and data on product shipments shown in tables 6a through 6c.

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.

were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

While the excluded items do benefit employees and all or part of their cost generally is similar to the items covered in the ASM labor costs statistics, accounting records generally do not provide reliable figures on net employee benefits of these types.

Retirements of depreciable assets. Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1992. 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.

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.

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

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

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

Depreciable assets. Total value of gross depreciable assets is collected on all census forms. However, the detail for depreciable assets is collected only on the ASM forms. The data encompass all fixed depreciable assets on the books of establishments at the beginning and end of the year. 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 new and used capital expenditures, less retirements, equalled assets at the end of the year.

New and used capital expenditures. The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Quantity of electric energy consumed for heat and power. Data on the cost of purchased electric energy are collected on all census forms. However, data on the quantity of purchased electric energy are collected only on the ASM forms. 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.

Breakdown of new capital expenditures for machinery and equipment. ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use, (2) computers and peripheral data processing equipment, and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use that were acquired through a purchase or lease-purchase agreement. Vehicles normally operating off public highways (vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects) are excluded from this item.

Foreign content of cost of materials. Establishments included in the ASM sample panel were requested to provide information on foreign-made materials purchased or transferred from foreign sources. This includes materials acquired from a central warehouse or other domestic establishment of the same company but made in an operation outside of the 50 States, District of Columbia, Puerto Rico, or U.S. territories.

Cost of purchased services. 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 reflect the costs paid directly by the establishment, and exclude 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, such as painting, roof repairs, replacing parts, and overhauling equipment. Such 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 were capitalized are considered capital expenditures for used buildings and machinery and are, 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.

Three basic approaches were utilized to produce these statistics.

1. For items 1 through 6, data were estimated (imputed) for all non-ASM establishments using the available data in the establishment record and industry-based parameters. The statistics were then generated by simply tabulating all census records including the imputed value for non-ASM establishments and the unweighted value for ASM establishments. Separate imputation rates were developed and are shown in the table. For quantity of purchased electricity for heat and power (item 7), a similar procedure was used; however, the imputation parameters were geographically-based instead of industry-based. For quantities of generated less sold electricity, no imputation was performed for non-ASM establishments. The estimates for these items are simply tabulations of unweighted ASM values.

Since the published statistics for these items were developed from the complete census universe and not just the ASM establishments, there are no sampling variances associated with these statistics. However, there is an unknown level of bias for each of the items due to the imputation of the non-ASM establishments. This bias is felt to be small due to the strong correlation between the items being imputed and the collected items that were used to generate the impute values.

2. For items 8 and 9, the estimates were developed using a ratio estimation methodology. For item 8, an estimate of the breakout of new capital expenditures for machinery and equipment into the three categories was made from ASM establishments reporting these categories. The estimated proportions were then applied to the corresponding census value for new capital expenditures for machinery and equipment to produce the estimates.

The estimates for item 9, foreign content of cost of materials, were developed in a similar manner based on costs of parts, supplies, and components (item 5a) as the control total for the three categories.

For items 8 and 9, an adjustment ratio of the following form was computed:

$$R_j = \frac{NMc}{TMEasm}$$

where:

NMc = the census value of new capital expenditures for machinery and equipment

TMEasm = the weighted ASM value of new capital expenditures for machinery and equipment from reporters of the detailed breakout data

3. For item 10, cost of purchased services, the estimates were made by simply tabulating weighted data for all the ASM records that reported the item. A response coverage ratio (a measure of the extent to which respondents reported for each item) is shown in table 3c for the types of services. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported the specific inquiry to the weighted total employment for all ASM establishments classified in the industry.

Appendix B.

Annual Survey of Manufactures Sampling and Estimating Methodologies

DESCRIPTION OF SURVEY SAMPLE

The annual survey of manufactures (ASM) contains two components. The mail portion of the survey is a probability sample of about 64,000 manufacturing establishments selected from a total of about 216,000 establishments. These 216,000 establishments represent all manufacturing establishments of multiunit companies and all single-establishment companies mailed schedules in the 1987 Census of Manufactures. This mail portion is supplemented annually by a Social Security Administration list of new manufacturing establishments opened after 1987 and a list of new multiunit manufacturing establishments identified from the Census Bureau's Company Organization Survey.

For the current panel, all establishments of companies with 1987 shipments in manufacturing in excess of \$500 million were included in the survey panel with certainty. There are approximately 500 such companies collectively accounting for approximately 18,000 establishments. For the remaining portion of the mail survey, the establishment was defined as the sampling unit. For this portion, all establishments with 250 employees or more and establishments with a very large value of shipments also were included in the survey panel with certainty. A total of 12,100 establishments were selected from this portion of the universe with certainty. Therefore, of the 64,000 manufacturing establishments included in the ASM panel, approximately 31,000 are selected with certainty. These certainty establishments collectively account for approximately 80 percent of the total value of shipments in the 1987 census.

Smaller establishments in the remaining portion of the mail survey were sampled with probabilities ranging from 0.999 to 0.005 in accordance with mathematical theory for optimum allocation of a sample. The probabilities of selection assigned to the smaller establishments were proportional to measures of size determined for each establishment. The measures of size depend directly upon each establishment's 1987 product class values and the historic variability of the year-to-year shipments of each product class. Product classes displaying more volatile year-to-year change in shipments at the establishment level were sampled at a heavier rate.

This method of assigning measures of size was used in order to maximize the precision (that is, minimize the variance of estimates of the year-to-year change) in the value of product class shipments. Implicitly, it also gave weight differences in employment, value added, and other

general statistics, since these are highly correlated with value of shipments. Individual sample selection probabilities were obtained by multiplying each establishment's final measure of size by an overall sampling fraction coefficient calculated to yield a total expected sample size.

The sample selection procedure gave each establishment in the sampling frame an independent chance of selection. This method of independent selection permits the rotation of small establishments out of a given sample panel without introducing a bias into the survey estimates.

The nonmail portion of the survey includes all single-establishment companies that were tabulated as administrative records in the 1987 Census of Manufactures. Although this portion contained approximately 134,000 establishments, it accounted for less than 2 percent of the estimate for total value of shipments at the total manufacturing level. This portion was not sampled; rather, the data for every establishment in this group were estimated based on selected information obtained annually from the administrative records of the Internal Revenue Service and the Social Security Administration. This administrative-records information, which includes payroll, total employment, industry classification, and physical location of the establishment, was obtained under conditions which safeguard the confidentiality of both tax and census records. Estimates of data other than payroll and employment for these small establishments were developed from industry averages.

The corresponding estimates for the mail and nonmail establishments were added together, along with the base-year differences, as defined in the Description of Estimating Procedure section, to produce the figures shown in this publication.

DESCRIPTION OF ESTIMATING PROCEDURES

Most of the ASM estimates for the years 1988-1991 were computed using a difference estimation procedure. For each item, a base-year difference was developed. This base-year difference is equal to the difference between the 1987 census published number for an item total and the linear ASM estimate of the total for 1987. The ASM linear estimate was obtained by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values.

These base-year differences were then added to the corresponding current-year linear estimates, which include the sum of the estimates for the mail and nonmail

establishments, to produce the estimates for the years 1983-1991. Estimates developed by this procedure usually are far more reliable than comparable linear estimates developed from the current sample data alone.

However, the 1992 sample estimates for the purchased service items, shown in table 3c, are strictly ASM linear estimates developed only from ASM establishments that reported the specific item.

The remaining estimates in table 3c, showing the breakdown of expenditures for new machinery and equipment and costs of parts (separated into purchases from foreign sources and purchases from domestic sources), were computed as ratio estimates. To do this, linear estimates of the new machinery detail items were developed from the ASM establishments and were ratio adjusted to the corresponding census total for new machinery. In a similar fashion, the ASM linear estimates of the detailed purchased materials items were ratio adjusted to the corresponding census total for cost of parts.

QUALIFICATIONS OF THE DATA

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

The particular sample selected for the ASM is one of a large number of 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 theoretical, comparable, complete-coverage values.

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

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

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

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
2. From two standard errors below to two standard errors above the derived estimate for about 19 of 20 of all possible samples.
3. 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 as 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 in the course of 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 only moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the ASM is not identical to the complete coverage of the census of manufactures, as the censuses have been conducted. Nearly all types of operational errors that affect the ASM also occur in the censuses. The ASM and the censuses, are conducted under quite different conditions, and operational errors can be better controlled in the ASM than in the censuses. As a result, for many of the census figures, the errors are of the same order of size as the total errors of the corresponding annual survey estimates. The differences between the census and ASM operating conditions also disturb, to some degree, the comparability of the ASM and census data.

Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with higher-level totals, creating a broader aggregate, which then may be of acceptable reliability.

Appendix C. Product Code Reference Tables

Part 1. Comparability of Product Classes and Product Codes That Changed: 1992 to 1987

1992	1987	1992	1987	1992	1987	1992	1987
35110	35111	35337 28	35337 24	35464	35461	35521 57	35521 54
		35337 28	35337 25	35464 01	35461 22	35521 57	35521 56
35110	35112	35337 32	35337 26	35464 05	35461 35	35521 67	35521 68
		35337 32	35337 27	35464 09	35461 01	35521 67	35521 69
35110 05	35111 01			35464 09	35461 03	35521 86	35521 84
35110 09	35111 02			35464 09	35461 04	35521 86	35521 85
35110 11	35112 03	35353 41	35353 45	35464 09	35461 05		
35110 11	35112 13	35353 47	35353 45	35464 09	35461 07	35533 34	35533 39
35110 21	35112 21			35464 09	35461 09	35533 38	35533 31
35110 22	35112 22	35363 39	35363 37	35464 15	35461 01	35533 38	35533 39
35110 23	35112 23	35363 39	35363 38	35464 15	35461 03		
35110 24	35112 24					35534 12	35534 01
35110 61	35112 61			35464 15	35461 04	35534 12	35534 02
35110 71	35112 71	35373 04	35373 05	35464 15	35461 05	35534 12	35534 03
35110 72	35112 72	35373 07	35373 05	35464 15	35461 07	35534 13	35534 04
		35373 09	35373 05	35464 15	35461 09	35534 13	35534 05
		35373 11	35373 05	35464 19	35461 12	35534 13	35534 06
35110 75	35112 74			35464 19	35461 15	35534 13	35534 07
35110 75	35112 76			35464 19	35461 16	35534 13	35534 08
35110 79	35112 79			35464 19	35461 17	35534 13	35534 09
35110 81	35112 81	35374 18	35374 17	35464 19	35461 18		
35110 83	35112 83	35374 18	35374 19	35464 19	35461 19		
35110 91	35111 01					35551 01	35551 02
35110 95	35111 02					35551 03	35551 02
		35419 41	35419 21	35464 19	35461 21		
		35419 41	35419 22	35464 19	35461 22		
35199 35	35199 41	35419 41	35419 23	35464 19	35461 23	35552 03	35552 38
35199 35	35199 42	35419 41	35419 24	35464 19	35461 25	35552 05	35552 38
35199 39	35199 43	35419 41	35419 25	35464 19	35461 26	35552 09	35552 01
35199 39	35199 44	35419 41	35419 26	35464 19	35461 28	35552 09	35552 37
35199 49	35199 45			35464 19	35461 29	35552 09	35552 41
35199 49	35199 46			35464 19	35461 31		
35199 63	35199 47	35424 11	35424 01	35464 19	35461 32	35553 00	35553 03
35199 63	35199 48	35424 11	35424 02	35464 19	35461 33	35553 00	35553 05
35199 67	35199 51	35424 75	35424 03	35464 19	35461 34	35553 00	35553 08
35199 67	35199 52	35424 75	35424 04	35464 19	35461 35	35553 00	35553 09
35199 71	35199 53	35424 75	35424 05	35464 19	35461 37		
				35464 21	35461 36	35556 71	35556 65
35199 71	35199 54	35442 03	35442 11			35556 73	35556 65
35199 75	35199 55	35442 05	35442 11			35556 79	35556 65
35199 75	35199 56	35442 07	35442 13	35465	35461		
35199 83	35199 57	35442 09	35442 13	35465 02	35461 01	35558 01	35558 02
35199 83	35199 58	35442 09	35442 13	35465 02	35461 03	35558 01	35558 09
35199 87	35199 59	35442 14	35442 15	35465 02	35461 04	35558 03	35558 02
35199 87	35199 60	35442 14	35442 16	35465 05	35461 05	35558 03	35558 09
35199 91	35199 61	35442 21	35442 17	35465 07	35461 07	35558 11	35558 02
35199 91	35199 62	35442 21	35442 18	35465 09	35461 09	35558 11	35558 09
35199 99	35199 91	35442 25	35442 19	35465 11	35461 18	35558 91	35558 89
35199 99	35199 92	35442 25	35442 23	35465 12	35461 12	35558 93	35558 89
				35465 13	35461 19		
				35465 14	35461 18		
3531M 08	3531M 09	35451 15	35451 16			35561 18	35561 02
3531M 21	3531M 09	35451 15	35451 18			35561 18	35561 07
3531M 21	3531M 15	35451 21	35451 17	35465 14	35461 19	35561 18	35561 08
		35451 21	35451 19	35465 15	35461 15	35561 18	35561 11
		35451 62	35451 58	35465 16	35461 16	35561 18	35561 19
3531N	3531H	35451 62	35451 59	35465 17	35461 17		
3531N 00	3531H 00	35451 62	35451 61	35465 21	35461 21	35562 73	35562 71
		35451 64	35451 58	35465 22	35461 22	35562 73	35562 75
3531P	3531H	35451 64	35451 59	35465 23	35461 23	35562 85	35562 85
		35451 64	35451 63	35465 24	35461 26	35562 89	35562 91
		35451 67	35451 65	35465 25	35461 25		
3531P 06	3531K 06			35465 27	35461 26	35563 19	35563 01
3531P 07	3531K 07					35563 19	35563 02
3531P 11	3531K 11	35451 67	35451 66	35465 28	35461 28	35563 19	35563 03
3531P 20	3531K 20	35451 67	35451 68	35465 29	35461 29	35563 19	35563 06
3531P 21	3531K 21	35451 74	35451 70	35465 31	35461 31	35563 19	35563 07
3531P 22	3531K 22	35451 74	35451 71	35465 33	35461 33	35563 19	35563 08
3531P 24	3531K 24	35451 74	35451 77	35465 36	35461 36	35563 19	35563 09
3531P 25	3531K 25	35451 79	35451 91	35465 37	35461 37	35563 19	35563 14
3531P 27	3531K 27	35451 79	35451 93	35465 38	35461 34	35563 19	35563 15
3531P 53	3531K 53	35451 81	35451 82	35465 38	35461 35		
		35451 81	35451 84	35465 39	35461 35	35592 04	35592 03
				35465 41	35461 32	35592 04	35592 05
3531P 55	3531K 55			35465 43	35461 32	35592 15	35592 09
3531P 61	3531K 61						
3531P 70	3531K 70	35455 73	35455 94				
3531P 74	3531K 74	35455 73	35455 95				
3531P 77	3531K 77	35455 77	35455 81	35473 41	35473 48	35593 41	35593 27
3531P 82	3531K 82	35455 77	35455 91	35473 43	35473 48	35593 41	35593 28
3531P 85	3531H 00	35455 77	35455 92	35473 49	35473 48	35593 41	35593 29
3531P 90	3531K 90	35455 77	35455 97				
3531P 97	3531K 97	35455 79	35455 83	35481 14	35481 01	35594 16	35594 09
		35455 79	35455 93	35481 14	35481 02	35594 16	35594 13
		35455 79	35455 96	35481 15	35481 05	35594 16	35594 15
		35455 79	35455 98	35481 15	35481 06	35594 25	35594 17
						35594 25	35594 21
35329 31	35329 33						
35329 31	35329 34						
35329 35	35329 37						
35329 35	35329 38						
35329 42	35329 41						
35329 42	35329 43						
35329 72	35329 71						
35329 72	35329 73	35463 19	35463 12	35482 09	35482 01	35595	35599
35329 72	35329 75	35463 19	35463 14	35482 09	35482 02	35595 01	35599 86
				35482 17	35482 07	35595 03	35599 86
				35482 17	35482 08	35595 05	35599 86
				35482 18	35482 15	35595 09	35599 87

Part 1. Comparability of Product Classes and Product Codes That Changed: 1992 to 1987
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1992	1987	1992	1987	1992	1987	1992	1987
35598	35599	35651 33	35651 14	35699 25	35698 25	35820 11	35820 21
35598 01	35599 01	35651 35	35651 12	35699 27	35698 27	35820 12	35820 13
35598 03	35599 03	35651 35	35651 13	35699 31	35698 31	35820 12	35820 14
35598 05	35599 05	35651 37	35651 15	35699 41	35698 07	35820 29	35820 22
35598 07	35599 07	35651 41	35651 15	35699 42	35698 07	35820 29	35820 26
35598 09	35599 09	35651 43	35651 16	35699 43	35698 07	35820 29	35820 28
35598 11	35599 11	35651 45	35651 17	35699 44	35698 07	35820 31	35820 25
35598 13	35599 13	35651 49	35651 19	35699 47	35698 35	35820 31	35820 35
35598 15	35599 15	35651 51	35651 21	35699 47	35698 48	35820 31	35820 36
35598 17	35599 17	35651 52	35651 21	35699 51	35698 02	35820 39	35820 34
35598 19	35599 19	35651 53	35651 21			35820 39	35820 41
		35651 59	35651 19	35699 51	35698 04	35820 39	35820 43
35598 22	35599 22			35699 51	35698 06	35820 39	35820 81
35598 25	35599 25			35699 51	35698 08		
35598 27	35599 27	35660 34	35660 31	35699 51	35698 12	35853 32	35853 31
35598 29	35599 29	35660 34	35660 32	35699 51	35698 14	35853 32	35853 33
35598 31	35599 31	35660 37	35660 35	35699 51	35698 16	35853 37	35853 36
35598 35	35599 35	35660 37	35660 36	35699 51	35698 18	35853 37	35853 38
35598 36	35599 33	35660 47	35660 33	35699 51	35698 22	35853 98	35853 73
35598 36	35599 37	35660 47	35660 30	35699 51	35698 24	35853 98	35853 97
35598 39	35599 39	35660 49	35660 38	35699 51	35698 26		
35598 41	35599 41	35660 49	35660 39	35699 51	35698 28	35859 06	35859 04
				35699 51	35698 32	35859 06	35859 05
35598 43	35599 43			35699 51	35698 36	35859 06	35859 07
35598 45	35599 45						
35598 48	35599 47	35676 09	35676 03				
35598 48	35599 49	35676 15	35676 05	35713	35711	35892 01	35892 05
35598 51	35599 51	35676 15	35676 06			35892 01	35892 07
35598 53	35599 53	35676 21	35676 17	35713	35712	35892 02	35892 03
35598 55	35599 55	35676 21	35676 19			35892 02	35892 04
35598 58	35599 57			35713 00	35711 00	35892 02	35892 07
35598 58	35599 59			35713 00	35712 00	35892 46	35892 35
35598 61	35599 61	35681 12	35681 11			35892 46	35892 44
		35681 12	35681 13	35714	35711	35892 84	35892 77
35598 63	35599 63					35892 84	35892 78
35598 65	35599 65			35714	35712	35892 84	35892 79
35598 67	35599 67	35683 20	35683 21				
35598 69	35599 69	35683 20	35683 24	35714 00	35711 00	35892 86	35892 85
35598 71	35599 71	35683 23	35683 22	35714 00	35712 00	35892 86	35892 87
35598 74	35599 73	35683 23	35683 24			35892 86	35892 88
35598 74	35599 75	35683 33	35683 32			35892 96	35892 98
35598 78	35599 77	35683 33	35683 34	35715	35711	35892 97	35892 80
35598 78	35599 79	35683 44	35683 43			35892 97	35892 91
35598 84	35599 82	35683 44	35683 45	35715	35712	35892 97	35892 99
		35683 89	35683 27				
35598 84	35599 85	35683 89	35683 29	35715 00	35711 00	35893 07	35893 08
35598 88	35599 88	35683 89	35683 92	35715 00	35712 00		35893 09
35598 89	35599 89						
35598 90	35599 90					35934	35931
35598 91	35599 94	35683 89	35683 97	35716	35711	35934 00	35931 00
35598 91	35599 95	35683 89	35683 98				
35598 96	35599 96	35683 91	35683 95	35716	35712	35935	35931
35598 97	35599 97	35683 99	35683 36			35935 00	35931 00
35598 98	35599 80	35683 99	35683 93	35716 00	35711 00		
35598 98	35599 81			35716 00	35712 00	35939	35933
						35939 00	35933 00
35598 98	35599 83	35694	35692	35717	35711		
35598 98	35599 85	35694 00	35692 00			35943	35941
35598 98	35599 92			35717	35712	35943 00	35941 10
35598 98	35599 93						
35598 98	35599 99	35695	35692	35717 00	35711 00	35944	35941
		35695 00	35692 00	35717 00	35712 00	35944 00	35941 10
35643 39	35643 23					35945	35941
35643 39	35643 28	35696	35692	35718	35711	35945 00	35941 10
		35696 00	35692 00			35945 00	35941 20
				35718	35712		
35646 11	35646 10					35946	35941
35646 21	35646 20	35699	35697	35718 00	35711 00	35946 00	35941 10
				35718 00	35712 00	35946 00	35941 20
35651 23	35651 01	35699	35698			35949	35942
35651 23	35651 15	35699 01	35698 01	35784	35781	35949 00	35942 10
35651 25	35651 02	35699 03	35698 03			35949 00	35942 20
35651 25	35651 21	35699 05	35698 05				
35651 27	35651 06	35699 09	35697 00	35784	35782		
35651 28	35651 06	35699 11	35698 11			35962 12	35962 09
35651 28	35651 07	35699 13	35698 13	35784 00	35781 00	35962 12	35962 11
35651 28	35651 08	35699 15	35698 15	35784 00	35782 00	35962 14	35962 13
35651 31	35651 09	35699 17	35698 17			35962 14	35962 15
35651 31	35651 21	35699 21	35698 21	35789	35783	35962 21	35962 17
35651 33	35651 11	35699 23	35698 23	35789 00	35783 00	35962 21	35962 19

Part 2. Comparability of Product Classes and Product Codes That Changed: 1987 to 1992

1987		1992		1987		1992		1987		1992	
35111	35110	35419 21	35419 41	35461 26	35464 19	35563 01	35563 19				
35111 01	35110 05	35419 22	35419 41	35461 26	35465 24	35563 02	35563 19				
35111 01	35110 91	35419 23	35419 41	35461 26	35465 27	35563 03	35563 19				
35111 02	35110 09	35419 24	35419 41	35461 28	35464 19	35563 06	35563 19				
35111 02	35110 95	35419 25	35419 41	35461 28	35465 28	35563 07	35563 19				
		35419 26	35419 41	35461 29	35464 19	35563 08	35563 19				
35112	35110			35461 29	35465 29	35563 09	35563 19				
35112 03	35110 11			35461 31	35464 19	35563 14	35563 19				
35112 13	35110 11	35424 01	35424 11	35461 31	35465 31	35563 15	35563 19				
35112 21	35110 21	35424 02	35424 11	35461 32	35464 19						
35112 22	35110 22	35424 03	35424 75								
35112 23	35110 23	35424 04	35424 75	35461 32	35465 41	35592 03	35592 04				
35112 24	35110 24	35424 05	35424 75	35461 32	35465 43	35592 05	35592 15				
35112 61	35110 61			35461 33	35464 19						
35112 71	35110 71	35442 11	35442 03	35461 33	35465 33	35593 27	35593 41				
35112 72	35110 72	35442 11	35442 05	35461 34	35464 19	35593 28	35593 41				
35112 74	35110 75	35442 13	35442 07	35461 34	35465 38	35593 29	35593 41				
35112 76	35110 75	35442 13	35442 09	35461 35	35464 05						
35112 79	35110 79	35442 15	35442 14	35461 35	35464 19	35594 09	35594 16				
35112 81	35110 81	35442 16	35442 14	35461 35	35465 38	35594 13	35594 16				
35112 83	35110 83	35442 17	35442 21	35461 35	35465 39	35594 15	35594 16				
		35442 18	35442 21	35461 36	35464 21	35594 17	35594 25				
35199 41	35199 35	35442 19	35442 25	35461 36	35465 36	35594 19	35594 25				
35199 42	35199 35	35442 23	35442 25	35461 37	35464 19	35594 21	35594 25				
35199 43	35199 39			35461 37	35465 37						
35199 44	35199 39					35599	35595				
35199 45	35199 49	35451 16	35451 15	35462 47	35462 45						
35199 46	35199 49	35451 17	35451 21	35462 47	35462 48	35599	35598				
35199 47	35199 63	35451 18	35451 15	35462 47	35462 49	35599 01	35598 01				
35199 48	35199 63	35451 19	35451 21			35599 03	35598 03				
35199 51	35199 67	35451 58	35451 62	35463 12	35463 19	35599 05	35598 05				
35199 52	35199 67	35451 58	35451 64	35463 14	35463 19	35599 07	35598 07				
35199 53	35199 71	35451 59	35451 62			35599 09	35598 09				
		35451 59	35451 64	35473 48	35473 41	35599 11	35598 11				
35199 54	35199 71	35451 61	35451 62	35473 48	35473 43	35599 13	35598 13				
35199 55	35199 75	35451 63	35451 64	35473 48	35473 49	35599 15	35598 15				
35199 56	35199 75	35451 65	35451 67			35599 17	35598 17				
35199 57	35199 83			35481 01	35481 14	35599 19	35598 19				
35199 58	35199 83	35451 66	35451 67	35481 02	35481 14						
35199 59	35199 87	35451 68	35451 67	35481 05	35481 15	35599 22	35598 22				
35199 60	35199 87	35451 70	35451 74	35481 06	35481 15	35599 25	35598 25				
35199 61	35199 91	35451 71	35451 74			35599 27	35598 27				
35199 62	35199 91	35451 77	35451 74	35482 01	35482 09	35599 29	35598 29				
35199 91	35199 99	35451 82	35451 81	35482 02	35482 09	35599 31	35598 31				
35199 92	35199 99	35451 84	35451 81	35482 07	35482 17	35599 33	35598 36				
		35451 91	35451 79	35482 08	35482 17	35599 35	35598 35				
3531H	3531N	35451 93	35451 79	35482 15	35482 18	35599 37	35598 36				
				35482 16	35482 18	35599 39	35598 39				
3531H	3531P	35455 81	35455 77			35599 41	35598 41				
		35455 83	35455 79	35521 54	35521 57	35599 43	35598 43				
3531H 00	3531N 00	35455 91	35455 77	35521 56	35521 57	35599 45	35598 45				
3531H 00	3531P 85	35455 92	35455 77	35521 68	35521 67	35599 47	35598 48				
		35455 93	35455 79	35521 69	35521 67	35599 49	35598 48				
		35455 94	35455 73	35521 84	35521 86	35599 51	35598 51				
3531K	3531P	35455 95	35455 73	35521 85	35521 86	35599 53	35598 53				
3531K 06	3531P 06	35455 96	35455 79			35599 55	35598 55				
3531K 07	3531P 07	35455 97	35455 77	35533 31	35533 38	35599 57	35598 58				
3531K 11	3531P 11	35455 98	35455 79	35533 39	35533 34	35599 59	35598 58				
3531K 20	3531P 20			35533 39	35533 38	35599 61	35598 61				
3531K 21	3531P 21										
3531K 22	3531P 22	35461	35464			35599 63	35598 63				
3531K 24	3531P 24			35534 01	35534 12	35599 65	35598 65				
3531K 25	3531P 25			35534 02	35534 12	35599 67	35598 67				
3531K 27	3531P 27	35461	35465	35534 03	35534 12	35599 69	35598 69				
3531K 53	3531P 53			35534 04	35534 13	35599 71	35598 71				
				35534 05	35534 13	35599 73	35598 74				
3531K 55	3531P 55	35461 01	35464 09	35534 06	35534 13	35599 75	35598 74				
3531K 61	3531P 61	35461 01	35464 15	35534 07	35534 13	35599 77	35598 78				
3531K 70	3531P 70	35461 03	35465 02	35534 08	35534 13	35599 79	35598 78				
3531K 74	3531P 74	35461 03	35464 15	35534 09	35534 13	35599 80	35598 98				
3531K 77	3531P 77	35461 03	35465 02								
3531K 82	3531P 82	35461 04	35464 09	35551 02	35551 01	35599 81	35598 98				
3531K 90	3531P 90	35461 04	35464 15	35551 02	35551 03	35599 82	35598 84				
3531K 97	3531P 97	35461 04	35465 02			35599 83	35598 98				
		35461 05	35464 09	35552 01	35552 09	35599 85	35598 84				
3531M 09	3531M 08	35461 05	35464 15	35552 37	35552 09	35599 85	35598 84				
3531M 09	3531M 21			35552 38	35552 03	35599 86	35598 86				
3531M 15	3531M 21			35552 38	35552 05	35599 86	35595 01				
		35461 05	35465 05	35552 41	35552 09	35599 86	35595 03				
		35461 07	35464 09			35599 87	35595 05				
35329 33	35329 31	35461 07	35464 15			35599 88	35595 09				
35329 34	35329 31	35461 07	35465 07	35553 03	35553 00	35599 88	35598 88				
35329 37	35329 35	35461 09	35464 09	35553 05	35553 00	35599 89	35598 89				
35329 38	35329 35	35461 09	35464 15	35553 08	35553 00	35599 90	35598 90				
35329 41	35329 42	35461 09	35465 09	35553 09	35553 00	35599 92	35598 98				
35329 43	35329 42	35461 12	35464 19			35599 93	35598 98				
35329 71	35329 72	35461 12	35465 12			35599 94	35598 91				
35329 73	35329 72	35461 15	35464 19	35556 65	35556 71	35599 95	35598 91				
35329 75	35329 72			35556 65	35556 73	35599 95	35598 91				
				35556 65	35556 79	35599 96	35598 96				
		35461 15	35465 15			35599 97	35598 97				
35337 24	35337 28	35461 16	35464 19	35558 02	35558 01	35599 99	35598 98				
35337 25	35337 28	35461 16	35465 16	35558 02	35558 03						
35337 26	35337 32	35461 17	35464 19	35558 02	35558 11	35643 23	35643 39				
35337 27	35337 32	35461 17	35465 17	35558 09	35558 01	35643 28	35643 39				
		35461 18	35464 19	35558 09	35558 03						
		35461 18	35465 11	35558 09	35558 11						
35353 45	35353 41	35461 18	35465 14	35558 09	35558 11	35646 10	35646 11				
35353 45	35353 47	35461 19	35464 19	35558 89	35558 91	35646 20	35646 21				
		35461 19	35465 13	35558 89	35558 93						
35363 37	35363 39					35651 01	35651 23				
35363 38	35363 39	35461 19	35465 14	35561 02	35561 18	35651 02	35651 25				
		35461 21	35464 19	35561 07	35561 18	35651 06	35651 27				
		35461 21	35465 21	35561 08	35561 18	35651 06	35651 28				
35373 05	35373 04	35461 22	35464 01	35561 11	35561 18	35651 07	35651 28				
35373 05	35373 07	35461 22	35464 19	35561 11	35561 18	35651 08	35651 28				
35373 05	35373 09	35461 22	35465 22	35561 19	35561 18	35651 09	35651 31				
35373 05	35373 11	35461 22	35464 19			35651 11	35651 33				
		35461 23	35464 19	35562 71	35562 73	35651 11	35651 33				
		35461 23	35465 23	35562 75	35562 73	35651 12	35651 35				
35374 17	35374 18	35461 25	35464 19	35562 85	35562 89	35651 13	35651 35				
35374 19	35374 18	35461 25	35465 25	35562 91	35562 89	35651 14	35651 33				

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1987		1992		1987		1992		1987		1992	
35651 15	35651 23	35692 00	35694 00	35711 00	35713 00	35859 04	35859 06				
35651 15	35651 37	35692 00	35695 00	35711 00	35714 00	35859 05	35859 06				
35651 15	35651 41	35692 00	35696 00	35711 00	35715 00	35859 07	35859 06				
35651 16	35651 43			35711 00	35716 00						
35651 17	35651 45			35711 00	35717 00	35892 03	35892 02				
35651 19	35651 49	35697	35699	35711 00	35718 00	35892 04	35892 02				
35651 19	35651 59	35697 00	35699 09			35892 05	35892 01				
35651 21	35651 25					35892 06	35892 01				
35651 21	35651 31			35712	35713	35892 07	35892 01				
35651 21	35651 51	35698	35699			35892 07	35892 02				
35651 21	35651 52	35698 01	35699 01			35892 35	35892 46				
35651 21	35651 53	35698 02	35699 51	35712	35714	35892 44	35892 46				
35651 21	35651 59	35698 03	35699 03			35892 77	35892 84				
		35698 04	35699 51			35892 78	35892 84				
		35698 05	35699 05	35712	35715	35892 79	35892 84				
35660 31	35660 34	35698 06	35699 51								
35660 32	35660 34	35698 07	35699 41	35712	35716	35892 80	35892 97				
35660 33	35660 47	35698 07	35699 42			35892 85	35892 86				
35660 35	35660 37	35698 07	35699 43			35892 87	35892 86				
35660 36	35660 37	35698 07	35699 44	35712	35717	35892 88	35892 86				
35660 38	35660 49					35892 91	35892 97				
35660 39	35660 49					35892 98	35892 96				
35660 40	35660 47	35698 08	35699 51	35712	35718	35892 99	35892 97				
		35698 11	35699 11								
		35698 12	35699 51	35712 00	35713 00						
35676 03	35676 09	35698 13	35699 13	35712 00	35714 00	35893 08	35893 07				
35676 04	35676 09	35698 14	35699 51	35712 00	35715 00	35893 09	35893 07				
35676 05	35676 15	35698 15	35699 15	35712 00	35716 00						
35676 06	35676 15	35698 16	35699 51	35712 00	35717 00	35931	35934				
35676 17	35676 21	35698 17	35699 17	35712 00	35718 00						
35676 19	35676 21	35698 18	35699 51			35931	35935				
		35698 21	35699 21								
				35781	35784	35931 00	35934 00				
35681 11	35681 12			35781 00	35784 00	35931 00	35935 00				
35681 13	35681 12										
		35698 22	35699 51								
		35698 23	35699 23								
		35698 24	35699 51	35782	35784	35933	35939				
		35698 25	35699 25	35782 00	35784 00	35933 00	35939 00				
35683 21	35683 20	35698 26	35699 51								
35683 22	35683 23	35698 27	35699 27	35783	35789	35941	35943				
35683 24	35683 20	35698 28	35699 51	35783 00	35789 00						
35683 24	35683 23	35698 31	35699 31			35941	35944				
35683 27	35683 89	35698 32	35699 51								
35683 29	35683 89	35698 35	35699 47	35820 13	35820 12	35941	35945				
35683 32	35683 33	35698 36	35699 51	35820 14	35820 12						
35683 34	35683 33	35698 36	35699 47	35820 21	35820 11	35941	35946				
35683 36	35683 99	35698 48	35699 47	35820 22	35820 29						
35683 43	35683 44	35698 49	35699 51	35820 25	35820 31	35941 10	35943 00				
35683 45	35683 44			35820 26	35820 29	35941 10	35944 00				
				35820 28	35820 29	35941 10	35945 00				
		35711	35713	35820 34	35820 39	35941 10	35946 00				
35683 92	35683 89			35820 35	35820 31	35941 20	35945 00				
35683 93	35683 99	35711	35714	35820 36	35820 31	35941 20	35946 00				
35683 95	35683 91			35820 41	35820 39						
35683 97	35683 89			35820 43	35820 39	35942	35949				
35683 98	35683 89	35711	35715	35820 81	35820 39	35942 10	35949 00				
						35942 20	35949 00				
35692	35694	35711	35716	35853 31	35853 32	35962 09	35962 12				
				35853 33	35853 32	35962 11	35962 12				
35692	35695	35711	35717	35853 36	35853 37	35962 13	35962 14				
				35853 38	35853 37	35962 15	35962 14				
				35853 73	35853 98	35962 17	35962 21				
35692	35696	35711	35718	35853 97	35853 98	35962 19	35962 21				

Part 3. Current Industrial Reports by Product Code

[Not applicable for this report]

Publication Program

1992 CENSUS OF MANUFACTURES

Publications of the 1992 Census of Manufactures, containing preliminary and final data on manufacturing establishments in the United States, are described below. Publications order forms for the specific reports may be obtained from any Department of Commerce district office or from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

Preliminary Reports

Industry series—83 reports (MC92-I-20A(P) to -39D(P))

Preliminary industry data are issued in 83 separate reports covering 459 industries. Preliminary summary data for the United States and States are released in one report.

Final Reports

Industry series—83 reports (MC92-1-20A to -39D)

Each of the 83 reports provides information for a group of related industries ("dairy products" includes industries for butter, cheese, milk, etc.). Final figures for the United States are shown for each of the 459 manufacturing industries on quantity and value of products shipped and materials consumed, cost of fuels and electric energy, capital expenditures, assets, rents, inventories, employment, payroll, payroll supplements, hours worked, value added by manufacture, number of establishments, and number of companies. Comparative statistics for earlier years are provided where available.

For each industry, data on value of shipments, value added by manufacture, capital expenditures, employment, and payroll are shown by employment-size class of establishment, State, and degree of primary product specialization.

Geographic area series—51 reports (MC92-A-1 to -51)

A separate report is being published for each State and the District of Columbia. Each report presents data for industry groups and industries on value of shipments, cost of materials, value added by manufacture, employment, payroll, hours worked, new capital expenditures, and number of manufacturing establishments for the State, MA's, counties, and selected places. Comparative statistics for earlier census years are shown for the State and large MA's. Manufacturing totals are presented for each county and for places with significant manufacturing activity. Detailed statistics (including inventories, assets, rents, and energy costs) are presented only in statewide totals.

Subject series—3 reports (MC92-S-1 to -3)

Each of the three reports contains detailed statistics for an individual subject, such as concentration ratios in manufacturing, manufacturers' shipments to the Federal Government, and a general national-level summary.

Reference series—1 report (MC92-R-1)

The *Numerical List of Manufactured and Mineral Products* includes a description of the principal products and services published in the 1992 Censuses of Manufactures and Mineral Industries.

Location of Manufacturing Plants—1 report (MC92-LM)

This report includes data for number of establishments by four-digit SIC industry and by employment-size class for counties, incorporated places of 2,500 inhabitants or more, and Zip Codes for each State. This report is available only on compact disc-read only memory (CD-ROM).

Analytical Reports—2 reports (AR92-1 and -2)

Exports From Manufacturing Establishments (AR92-1)

This report presents data on exports by two- and three-digit SIC industry groups for the United States and States. Information is presented on value of direct report shipments and estimates of the employment required to manufacture these products. Included are estimates of employment in manufacturing and nonmanufacturing establishments that supply parts, materials, and services for production of manufactured exports.

Selected Characteristics of Manufacturing Establishments That Export (AR92-2)

This report presents data on the number of manufacturing companies and establishments that export by major group, State, employment size, and ratios of exports to shipments.

Electronic Media

All data included in the printed reports are available on CD-ROM. The CD-ROM's provide the same information found in the reports as well as additional information not published in the final reports, such as location of manufacturing plants. Electronic media products are available for users who wish to summarize, rearrange, or process large amounts of data. These products, with corresponding technical documentation, are sold by Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

OTHER ECONOMIC CENSUSES REPORTS

Data on retail trade, wholesale trade, financial, insurance, real estate, service industries, construction industries, mineral industries, transportation, communications, utilities, enterprise statistics, minority-owned businesses, and women-owned businesses also are available from the 1992 Economic Census. A separate series of reports covers the census of outlying areas—Puerto Rico, Virgin Islands of the United States, Guam, and the Commonwealth of the Northern Mariana Islands. Separate announcements describing these reports are available free of charge from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.