Concentration Ratios in Manufacturing

1997

Issued June 2001

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1997 Economic Census *Manufacturing* Subject Series



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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. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

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

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

ALL-NEW INDUSTRY CLASSIFICATIONS

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

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

- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste
 - Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Foodservices
- 81 Other Services (except Public Administration)

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

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

RELATIONSHIP TO SIC

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

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

GEOGRAPHIC AREA CODING

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

1997 ECONOMIC CENSUS

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

BASIS OF REPORTING

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

DOLLAR VALUES

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

All dollar values are shown in thousands of dollars.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

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

Special Tabulations

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

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

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

HISTORICAL INFORMATION

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

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

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

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

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

SOURCES FOR MORE INFORMATION

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

ABBREVIATIONS AND SYMBOLS

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

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

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

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Manufacturing

SCOPE

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

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

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

GENERAL

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

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

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

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

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

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

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

GEOGRAPHIC AREAS COVERED

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

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

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

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

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

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

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

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

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

DISCLOSURE

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

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

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

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

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

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

Table 1. Share of Industry Statistics for Companies Ranked by Value Added: 1997

Company rank group based on value added by			Production workers			Value added			
manufacture ¹	All employees	Payroll	Total	Hours	Wages	by manufac- ture	Cost of materials	Value of shipments	Total capital expenditures
50 largest 51st to 100th largest 101st to 150th largest 151st to 200th largest 201st and larger	11.7 4.4 3.6 2.8 77.5	17.3 5.3 4.2 3.0 70.2	10.6 4.2 3.7 2.9 78.6	11.1 4.4 3.7 3.0 77.7	16.8 5.2 4.4 3.3 70.4	24.0 7.7 5.2 3.8 59.3	22.0 8.6 4.8 4.7 59.8	23.0 8.2 5.0 4.3 59.6	21.3 7.3 5.3 4.1 62.0

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

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

Note: All percentages are independently rounded and do not necessarily add to 100.

Table 2. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each of the 3-, 4-, 5-, and 6-Digit NAICS Industries: 1997

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

NACIS	Industry group and industry				Percent of value accounted fo			Herfindahl- Herschmann
code	musity group and musity	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
311	Food mfg	21 958	421 737 017	14.3	22.0	34.8	50.8	91.0
3111 31111 311111 311111 311119	Animal food mfg . Animal food mfg . Dog & cat food mfg . Other animal food mfg .	1 077 1 077 129 962	27 732 347 27 732 347 8 688 239 19 044 108	23.1 23.1 58.4 23.7	34.7 34.7 80.2 36.3	56.1 56.1 92.4 54.5	73.1 73.1 98.3 71.2	238.8 238.8 1 266.5 240.6
3112 31121 311211 311211 311212 311213	Grain & oilseed milling Flour milling & malt mfg. Flour milling Rice milling Malt mfg	534 324 254 56 19	52 075 763 11 141 876 8 001 978 2 364 582 775 316	45.3 38.7 48.4 51.8 69.0	59.1 51.8 62.5 75.3 94.5	77.1 71.4 79.2 92.5 100.0	89.1 89.2 93.4 99.8 N	711.4 485.7 699.6 894.2 1 458.7
31122 311221 311222 311223 311223 311225	Starch & vegetable fats & oils mfg Wet corn milling Soybean processing Other oilseed processing Fats & oils refining & blending	179 30 43 32 91	31 835 054 8 455 172 14 036 271 1 720 738 7 622 873	57.7 71.7 79.6 66.6 36.7	73.0 90.3 94.5 81.9 63.0	88.3 99.8 99.5 98.9 89.5	96.9 100.0 100.0 100.0 98.8	1 213.5 1 507.4 2 035.4 2 149.2 602.8
31123 311230	Breakfast cereal mfg Breakfast cereal mfg	48 48	9 098 833 9 098 833	82.9 82.9	93.5 93.5	99.2 99.2	100.0 100.0	2 445.9 2 445.9
3113 31131 311311 311311 311312 311313	Sugar & confectionery product mfg Sugar mfg Sugarcane mills Cane sugar refining Beet sugar mfg	1 556 49 34 12 8	24 114 454 7 399 171 1 457 482 3 209 186 2 732 503	41.9 64.4 56.6 98.7 85.0	56.4 84.0 71.4 99.9 100.0	75.0 95.9 94.3 100.0 N	86.3 100.0 100.0 N N	580.3 1 452.2 1 158.7 D 1 997.6
31132 311320	Chocolate & confectionery mfg from cacao beans Chocolate & confectionery mfg from cacao	152	3 755 268	79.5	92.5	97.6	99.0	2 567.1
011020	beans	152	3 755 268	79.5	92.5	97.6	99.0	2 567.1
31133 311330	Confectionery mfg from purchased chocolate Confectionery mfg from purchased chocolate	796 796	7 879 752 7 879 752	65.2 65.2	75.3 75.3	84.2 84.2	92.0 92.0	1 600.6 1 600.6
31134 311340	Nonchocolate confectionery mfg Nonchocolate confectionery mfg	578 578	5 080 263 5 080 263	40.7 40.7	60.1 60.1	78.0 78.0	91.0 91.0	623.0 623.0
3114 31141 311411 311412	Fruit & vegetable preserving & specialty food mfg Frozen food mfg Frozen fruit, juice, & vegetable mfg Frozen specialty food mfg	1 394 531 177 363	46 618 107 19 691 664 9 549 256 10 142 408	26.6 31.3 34.3 40.2	35.6 44.6 47.4 56.9	51.8 62.8 70.6 74.9	69.2 79.8 90.5 88.6	253.3 349.5 443.7 530.5
31142 311421 311422 311423	Fruit & vegetable canning, pickling, & drying Fruit & vegetable canning . Specialty canning . Dried & dehydrated food mfg	887 661 122 125	26 926 443 15 801 279 8 051 059 3 074 105	27.9 24.9 67.2 30.3	39.3 38.0 83.5 51.1	58.3 59.7 96.1 80.2	76.7 77.1 99.5 96.9	342.0 259.3 2 165.1 440.8
3115 31151 311511 311512 311513 311513 311514	Dairy product mfg Dairy product (except frozen) mfg Fluid milk mfg Creamery butter mfg Cheese mfg. Dry, condensed, & evaporated dairy product	1 329 948 402 32 399	58 670 293 52 812 384 21 995 148 1 367 548 20 232 146	16.5 18.1 21.3 52.4 34.6	26.0 28.4 31.0 73.2 50.9	45.4 48.6 50.5 97.3 70.6	64.2 66.7 72.2 100.0 85.1	147.0 169.8 204.6 889.8 524.6
011014	mfg	169	9 217 542	47.1	58.6	78.1	94.0	816.9
31152 311520	Ice cream & frozen dessert mfg Ice cream & frozen dessert mfg	409 409	5 857 909 5 857 909	32.3 32.3	48.7 48.7	71.1 71.1	88.3 88.3	444.7 444.7
3116 31161 311611 311612 311613 311613	Meat product mfg . Animal slaughtering & processing . Animal (except poultry) slaughtering . Meat processed from carcasses . Rendering & meat byproduct processing . Poultry processing .	2 794 2 794 1 307 1 163 137 257	112 979 006 112 979 006 54 284 253 24 260 511 2 556 547 31 877 695	35.0 35.0 57.0 20.4 37.4 40.6	47.5 47.5 70.8 30.3 54.1 54.0	61.3 61.3 81.5 45.0 75.5 72.6	72.1 72.1 89.7 62.0 92.6 90.0	392.6 392.6 1 069.1 171.6 569.4 667.7
3117 31171 311711 311711 311712	Seafood product preparation & packaging Seafood product preparation & packaging Seafood canning. Fresh & frozen seafood processing	731 731 152 586	6 919 210 6 919 210 862 118 6 057 092	12.4 12.4 25.9 13.6	20.9 20.9 42.5 22.9	39.1 39.1 71.4 42.2	61.8 61.8 93.4 65.8	104.9 104.9 342.6 120.6

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For exp				Percent of value of accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
311	Food mfg-Con.							
3118 31181 311811 311812 311812 311813	Bakeries & tortilla mfg Bread & bakery product mfg . Retail bakeries Commercial bakeries Frozen cakes, pies, & other pastries mfg	10 437 9 489 6 906 2 401 223	43 722 668 25 953 070 1 946 153 21 494 992 2 511 925	28.6 33.2 2.5 39.2 38.2	40.1 43.6 3.9 51.3 49.8	55.5 58.3 6.7 66.0 67.3	68.1 69.0 11.1 77.6 86.3	281.2 423.4 3.7 593.0 552.1
31182	Cookie, cracker, & pasta mfg	767	16 656 299	41.7	53.3	68.4	85.2	602.0
311821	Cookie & cracker mfg	322	9 889 921	59.9	71.9	87.8	95.3	1 383.3
311822	Flour mixes & dough mfg from purchased flour	206	4 999 850	43.7	58.2	77.1	93.6	1 051.4
311823	Dry pasta mfg	249	1 766 528	57.1	74.3	88.0	92.8	1 321.5
31183	Tortilla mfg	217	1 113 299	57.2	64.2	74.7	88.7	1 852.0
311830		217	1 113 299	57.2	64.2	74.7	88.7	1 852.0
3119 31191 311911 311911 311919	Other food mfg Snack food mfg Roasted nuts & peanut butter mfg Other snack food mfg	2 493 466 128 340	48 905 169 13 590 607 3 933 112 9 657 495	34.7 57.2 37.5 70.9	42.7 63.5 57.6 76.5	54.4 75.8 79.6 87.5	65.7 88.2 94.9 94.3	366.2 1 996.4 551.1 D
31192	Coffee & tea mfg	215	7 974 921	52.5	65.6	84.4	95.0	1 028.3
311920	Coffee & tea mfg	215	7 974 921	52.5	65.6	84.4	95.0	1 028.3
31193	Flavoring syrup & concentrate mfg	149	6 590 816	80.7	87.9	93.3	97.9	D
311930	Flavoring syrup & concentrate mfg	149	6 590 816	80.7	87.9	93.3	97.9	D
31194 311941	Seasoning & dressing mfg Mayonnaise, dressing, & other prepared sauce	525	10 027 200	34.4	46.9	62.9	80.4	395.3
311942	Spice & extract mfg	293 241	5 810 040 4 217 160	40.3 43.7	56.5 53.5	74.7 70.1	91.8 86.1	651.0 798.7
31199	All other food mfg	1 197	10 721 625	19.8	28.1	42.9	60.2	157.9
311991	Perishable prepared food mfg	415	2 730 103	24.3	35.6	54.2	73.5	225.8
311999	All other miscellaneous food mfg	785	7 991 522	23.5	34.6	51.7	70.1	220.3
312	Beverage & tobacco product mfg	2 237	96 971 368	45.1	59.1	72.7	83.7	777.2
3121 31211 312111 312111 312112 312113	Beverage mfg Soft drink & ice mfg Soft drink mfg Bottled water mfg Ice mfg	2 169 1 008 388 109 514	60 896 055 32 587 038 31 376 263 785 869 424 906	40.9 45.5 47.2 51.7 24.4	52.1 53.6 55.6 64.4 31.3	66.0 68.8 70.9 80.3 43.1	79.4 82.4 84.8 94.9 60.3	531.5 743.3 800.4 986.6 302.3
31212	Breweries	494	18 203 492	89.7	93.4	95.2	96.7	D
312120	Breweries	494	18 203 492	89.7	93.4	95.2	96.7	D
31213	Wineries	637	6 194 564	43.2	59.2	76.6	85.3	837.5
312130	Wineries	637	6 194 564	43.2	59.2	76.6	85.3	837.5
31214	Distilleries	44	3 910 961	59.8	77.0	96.9	100.0	1 075.7
312140	Distilleries	44	3 910 961	59.8	77.0	96.9	100.0	1 075.7
3122	Tobacco mfg	70	36 075 313	83.4	93.3	99.0	99.9	D
31221	Tobacco stemming & redrying	13	3 263 376	83.7	97.8	100.0	N	2 320.2
312210	Tobacco stemming & redrying	13	3 263 376	83.7	97.8	100.0	N	2 320.2
31222	Tobacco product mfg	63	32 811 937	89.0	95.7	99.6	99.9	D
312221	Cigarette mfg	9	29 252 787	98.9	D	100.0	N	D
312229	Other tobacco product mfg	56	3 559 150	62.4	83.5	97.8	99.9	1 846.0
313	Textile mills	3 863	58 707 401	13.8	21.7	35.9	52.9	94.4
3131 31311 313111 313111 313112 313113	Fiber, yarn, & thread mills Fiber, yarn, & thread mills Yarn spinning mills Yarn texturing, throwing, & twisting mills Thread mills	358 358 229 101 44	12 896 617 12 896 617 8 143 185 4 231 500 521 932	29.8 29.8 25.5 60.3 69.5	42.6 42.6 40.5 71.9 83.6	63.4 63.4 63.9 87.7 95.8	82.2 82.2 87.1 97.8 100.0	344.3 344.3 294.1 1 495.3 1 472.7
3132	Fabric mills	1 796	29 979 595	15.9	23.5	40.7	61.1	122.3
31321	Broadwoven fabric mills	734	18 269 155	23.8	35.4	58.1	80.6	252.1
313210	Broadwoven fabric mills	734	18 269 155	23.8	35.4	58.1	80.6	252.1
31322	Narrow fabric mills & schiffli machine embroidery	478	1 645 969	17.2	27.6	49.6	74.9	167.5
313221	Narrow fabric mills	243	1 409 967	20.1	32.2	57.9	84.5	223.5
313222	Schiffli machine embroidery	235	236 002	26.1	43.2	65.5	83.5	310.1
31323	Nonwoven fabric mills	212	4 367 765	33.8	48.2	68.0	86.2	435.8
313230	Nonwoven fabric mills	212	4 367 765	33.8	48.2	68.0	86.2	435.8
31324	Knit fabric mills	407	5 696 706	28.0	38.2	53.9	72.5	272.6
313241	Weft knit fabric mills	236	3 070 633	31.0	39.7	57.8	81.4	425.3
313249	Other knit fabric & lace mills	181	2 626 073	40.4	54.4	72.2	88.6	592.9
3133 31331 313311 313311 313312	Textile & fabric finishing & fabric coating mills Textile & fabric finishing mills Broadwoven fabric finishing mills Textile & fabric finishing mills	1 827 1 589 1 255 346	15 831 189 13 697 712 9 294 623 4 403 089	17.4 20.2 28.0 29.7	26.3 30.4 38.4 41.6	40.6 46.3 51.9 61.7	54.8 61.2 66.2 79.7	131.3 172.2 274.8 323.9
31332	Fabric coating mills	246	2 133 477	14.8	26.2	49.9	75.3	160.2
313320	Fabric coating mills	246	2 133 477	14.8	26.2	49.9	75.3	160.2

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For ex	F			Percent of value of accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
314	Textile product mills	7 516	31 051 835	22.8	31.9	45.1	57.0	186.2
3141 31411 314110	Textile furnishings mills . Carpet & rug mills . Carpet & rug mills .	3 080 413 413	20 296 040 11 492 786 11 492 786	34.1 50.7 50.7	47.4 65.0 65.0	63.4 81.0 81.0	77.1 92.9 92.9	396.3 922.5 922.5
31412 314121 314129	Curtain & linen mills Curtain & drapery mills Other household textile product mills	2 670 2 012 668	8 803 254 1 852 089 6 951 165	39.7 26.5 50.0	48.5 36.3 58.7	61.8 50.1 72.5	73.6 64.7 83.2	499.4 294.8 765.8
3149 31491 314911 314912	Other textile product mills Textile bag & canvas mills Textile bag mills Canvas & related product mills	4 455 2 094 423 1 673	10 755 795 2 502 064 972 920 1 529 144	10.6 7.9 19.1 10.4	17.1 13.8 29.6 17.1	29.3 25.1 50.0 28.4	41.7 40.9 71.0 42.8	59.1 45.1 180.2 56.9
31499 314991 314992 314999	All other textile product mills . Rope, cordage, & twine mills . Tire cord & tire fabric mills . All other miscellaneous textile product mills	2 366 189 15 2 164	8 253 731 777 091 1 268 662 6 207 978	13.8 37.0 65.0 16.3	22.3 51.6 94.7 25.2	38.2 70.8 100.0 36.6	53.1 88.5 N 51.0	99.1 464.0 1 361.2 114.5
315	Apparel mfg	15 839	68 018 116	17.6	23.2	29.8	38.8	100.6
3151 31511 315111 315111 315119	Apparel knitting mills . Hosiery & sock mills Sheer hosiery mills Other hosiery & sock mills	1 209 532 136 399	9 600 569 4 562 009 1 658 474 2 903 535	22.7 28.6 50.9 25.7	33.1 38.4 66.0 37.6	48.7 56.7 88.1 60.8	65.6 77.7 97.3 79.4	211.5 324.5 998.3 269.2
31519 315191 315192	Other apparel knitting mills Outerwear knitting mills Underwear & nightwear knitting mills	683 645 43	5 038 560 4 352 532 686 028	33.8 39.1 63.0	47.1 52.0 82.9	61.4 63.6 98.8	75.6 76.4 100.0	459.7 583.2 1 325.0
3152 31521 315211 315212	Cut & sew apparel mfg Cut & sew apparel contractors Men's & boys' cut & sew apparel contractors Women's, girls', & infants' cut & sew apparel	12 487 7 677 636	53 851 513 5 536 959 1 534 022	20.2 7.3 20.4	26.2 11.2 29.2	33.3 18.7 45.2	43.0 27.9 61.4	136.0 25.8 176.1
31522	contractors	7 056 1 362	4 002 937 21 298 782	6.3 37.3	9.9 46.2	16.8 57.1	24.6 70.3	20.3 461.9
315221	Men's & boys' cut & sew apparel mfg Men's & boys' cut & sew underwear & nightwear mfg	62	1 404 202	67.5	84.0	96.3	99.9	1 693.8
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	193	2 082 863	42.0	55.5	75.1	92.0	845.7
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	387	6 916 178	42.9	55.4	71.9	85.6	659.3
315224 315225 315228	Men's & boys' cut & sew trouser, slack, & jean mfg Men's & boys' cut & sew work clothing mfg Men's & boys' cut & sew other outerwear mfg	199 149 430	7 152 379 1 865 304 1 877 856	68.9 46.6 20.3	76.4 62.3 32.0	87.2 81.8 52.6	95.4 95.3 73.8	2 253.8 851.0 202.4
31523 315231	Women's & girls' cut & sew apparel mfg Women's & girls' cut/sew lingerie & nightwear	2 927	24 832 784	13.1	19.2	31.1	44.3	76.1
315232 315233 315234 315239	Momen's & girls' cut & sew blouse & shirt mfg Women's & girls' cut & sew dress mfg Women's & girls' cut & sew suit, coat, skirt mfg Women's & girls' cut & sew other outerwear mfg	249 714 747 428 818	3 910 357 3 995 123 5 009 262 3 759 250 8 158 792	42.8 12.6 14.2 31.9 22.3	58.1 22.1 23.7 41.0 36.9	75.4 42.0 39.4 57.2 56.3	90.2 66.8 60.4 76.3 75.4	589.4 120.3 111.3 333.3 229.3
31529 315291 315292 315292 315299	Other cut & sew apparel mfg Infants' cut & sew apparel mfg Fur & leather apparel mfg All other cut & sew apparel mfg	665 39 224 402	2 182 988 945 119 244 687 993 182	26.3 60.9 22.6 22.5	36.6 79.5 34.8 37.3	56.0 98.0 54.0 56.2	73.4 100.0 74.1 74.7	290.8 1 300.1 221.2 226.3
3159 31599 315991 315992 315993 315999	Apparel accessories & other apparel mfg Apparel accessories & other apparel mfg Hat, cap, & millinery mfg Glove & mitten mfg Men's & boys' neckwear mfg Other apparel accessories & other apparel mfg	2 201 2 201 363 98 119 1 626	4 566 034 4 566 034 980 704 672 639 598 457 2 314 234	14.2 14.2 36.0 63.8 48.2 19.0	23.0 23.0 46.6 73.0 62.0 28.5	39.2 39.2 61.3 85.4 79.4 44.1	53.9 53.9 77.8 97.1 93.8 58.5	107.8 107.8 398.3 1 691.4 751.3 144.9
316	Leather & allied product mfg	1 727	10 876 510	19.0	31.4	48.5	65.0	167.2
3161 31611 316110	Leather & hide tanning & finishing Leather & hide tanning & finishing Leather & hide tanning & finishing	327 327 327	3 576 657 3 576 657 3 576 657	49.1 49.1 49.1	66.5 66.5 66.5	79.9 79.9 79.9	91.5 91.5 91.5	741.5 741.5 741.5
3162 31621 316211 316212 316213 316213 316214 316219	Footwear mfg Footwear mfg Rubber & plastics footwear mfg House slipper mfg Men's footwear (except athletic) mfg Women's footwear (except athletic) mfg Other footwear mfg	366 366 50 22 123 97 87	4 210 975 4 210 975 1 009 838 263 816 2 019 647 703 653 214 021	27.7 27.7 54.6 82.5 49.7 49.5 32.6	42.4 42.4 69.1 95.8 67.7 65.8 54.3	65.0 65.0 92.9 D 89.7 88.5 81.7	84.3 84.3 100.0 100.0 98.7 98.6 96.9	317.0 317.0 1 079.4 2 053.4 857.2 794.8 469.1
3169 31699 316991 316992 316993	Other leather & allied product mfg Other leather & allied product mfg Luggage mfg Women's handbag & purse mfg Personal leather good (except women's handbag	1 045 1 045 270 136	3 088 878 3 088 878 1 425 871 287 341	26.5 26.5 51.9 58.6	35.3 35.3 62.4 71.3	49.5 49.5 75.0 86.4	66.7 66.7 86.8 95.8	354.3 354.3 1 418.6 1 521.4
316999	& purse) mfg	178 464	465 206 910 460	42.2 24.9	56.6 38.6	79.8 62.3	93.1 79.3	841.0 270.2
321	Wood product mfg	15 621	88 470 180	10.5	16.7	26.4	37.8	52.7
3211 32111 321113 321113 321114	Sawmills & wood preservation	4 372 4 372 4 024 361	29 093 601 29 093 601 24 632 080 4 461 521	14.5 14.5 16.8 19.7	20.1 20.1 23.2 30.7	31.4 31.4 35.9 50.0	44.4 44.4 48.1 73.8	86.7 86.7 112.3 188.2
3212 32121 321211 321212 321212 321213 321214 321219	Veneer, plywood, & engineered wood product mfg Veneer, plywood, & engineered wood product mfg . Hardwood veneer & plywood mfg Softwood veneer & plywood mfg Engineered wood member (except truss) mfg Truss mfg. Reconstituted wood product mfg	1 491 1 491 303 88 32 886 212	18 815 394 18 815 394 2 861 556 5 658 347 1 431 123 3 610 943 5 253 425	26.9 26.9 30.5 48.8 77.1 8.8 42.9	40.8 40.8 40.5 68.1 86.9 13.4 58.1	53.4 53.4 55.7 86.4 96.6 22.9 76.1	64.9 64.9 74.3 98.7 100.0 39.5 91.3	286.9 286.9 430.4 914.9 2 453.5 42.4 592.3

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For e	<u> </u>			Percent of value accounted fo			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
321	Wood product mfg-Con.							
3219 32191 321911 321912 321912 321918	Other wood product mfg Millwork Wood window & door mfg Cut stock, resawing lumber, & planing Other millwork (including flooring)	9 923 3 985 1 311 1 296 1 416	40 561 185 19 040 942 8 673 423 5 925 115 4 442 404	12.7 16.1 30.9 19.5 19.8	18.6 24.2 43.6 24.6 25.8	29.3 35.1 56.6 35.7 37.7	40.3 46.1 69.4 53.5 52.6	66.8 100.9 332.2 197.3 153.2
32192 321920	Wood container & pallet mfg Wood container & pallet mfg	2 870 2 870	4 489 070 4 489 070	5.8 5.8	8.8 8.8	14.1 14.1	22.7 22.7	15.9 15.9
32199 321991 321992 321992 321999	All other wood product mig Manufactured home (mobile home) mfg Prefabricated wood building mfg All other miscellaneous wood product mfg	2 870 3 103 145 652 2 309	17 031 173 10 085 615 3 028 520 3 917 038	26.3 44.3 17.1 19.3	36.0 60.2 25.0 23.9	50.1 80.9 38.3 32.7	62.0 92.3 58.2 44.4	257.9 708.3 119.3 141.2
322	Paper mfg	3 808	150 295 890	18.5	31.1	51.0	67.0	173.3
3221 32211 322110	Pulp, paper, & paperboard mills Pulp mills Pulp mills	217 24 24 139	71 539 224 3 263 973 3 263 973 48 161 554	28.0 58.6 58.6	45.7 85.6 85.6	71.5 99.5 99.5	89.4 100.0 100.0	356.0 1 106.4 1 106.4
32212 322121 322122	Paper mills . Paper (except newsprint) mills . Newsprint mills .	121 24	48 161 554 42 966 163 5 195 391 20 113 697	33.6 37.6 43.9	54.6 59.2 68.2	79.7 83.9 98.4	93.8 96.1 100.0	467.2 541.7 766.0
32213 322130	Paperboard mills Paperboard mills	81 81	20 113 697 20 113 697	33.6 33.6	53.2 53.2	82.2 82.2	98.3 98.3	485.1 485.1
3222 32221 322211 322212 322213 322213 322214 322215	Converted paper product mfg Paperboard container mfg Corrugated & solid fiber box mfg Folding paperboard box mfg Setup paperboard box mfg Fiber can, tube, drum, & similar products mfg Nonfolding sanitary food container mfg	3 674 1 705 995 434 142 138 46	$\begin{array}{c} 78 & 756 & 666 \\ 39 & 973 & 012 \\ 25 & 555 & 136 \\ 8 & 929 & 351 \\ & 512 & 314 \\ 2 & 305 & 281 \\ 2 & 670 & 930 \end{array}$	12.0 19.2 25.8 24.5 17.2 68.2 62.2	21.5 32.6 42.4 38.3 27.3 76.8 79.9	39.5 50.0 59.1 57.7 46.9 86.0 97.9	54.8 65.6 71.4 73.2 75.8 93.9 100.0	96.2 175.8 277.0 245.8 165.8 2 585.7 1 197.9
32222 322221	Paper bag & coated & treated paper mfg Coated & laminated packaging paper & plastics	764	19 367 269	27.1	35.3	50.7	67.9	266.7
322222 322223 322224 322225	film mfg Coated & laminated paper mfg Plastics, foil, & coated paper bag mfg Uncoated paper & multiwall bag mfg Laminated aluminum foil mfg for flexible	73 509 40 93	1 491 170 11 845 958 493 924 2 794 934	38.1 40.5 42.4 53.7	58.8 49.0 66.4 68.7	85.6 62.2 94.3 86.8	99.3 78.7 100.0 97.6	574.8 593.9 699.4 1 033.1
322226	packaging uses Surface-coated paperboard mfg	34 42	1 587 850 1 153 433	58.7 51.5	78.2 74.8	95.1 94.5	100.0 100.0	1 097.5 920.5
32223 322231 322232 322233	Stationery product mfg Die-cut paper & paperboard office supplies mfg Envelope mfg Stationery, tablet, & related product mfg	674 337 188 158	7 734 912 2 105 012 3 655 270 1 974 630	27.5 44.4 40.9 55.9	42.0 58.9 56.4 71.4	60.9 73.8 71.6 88.5	76.3 84.3 87.3 96.4	296.9 642.0 564.5 1 127.5
32229 322291 322299	Other converted paper product mfg Sanitary paper product mfg All other converted paper product mfg	623 99 529	11 681 473 7 833 607 3 847 866	42.3 63.1 23.0	52.5 76.8 31.7	68.6 92.2 44.2	80.1 98.8 61.2	688.1 1 481.0 187.0
323	Printing & related support activities	40 987	97 485 138	9.6	14.0	21.1	28.1	38.4
3231 32311 323110 323111 323112 323113 323114 323115 323116 323116 323117 323118 323118 323119	Printing & related support activities Printing Commercial lithographic printing Commercial gravure printing Commercial screen printing Quick printing Digital printing Manifold business form printing Blankbook, looseleaf binder, & device mfg Other commercial printing	40 987 36 617 18 015 419 864 4 996 7 990 386 719 690 283 3 387	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9.6 10.1 11.1 56.9 14.6 8.2 9.6 10.1 32.6 31.9 43.4 12.5	14.0 14.8 16.1 67.3 22.1 13.0 11.4 17.2 47.9 45.1 56.2 17.7	21.1 22.4 23.2 82.9 36.2 22.2 14.9 32.6 63.9 59.3 70.3 27.6	28.1 29.7 30.4 93.7 54.0 33.5 20.5 53.5 76.7 73.9 82.5 38.8	38.4 43.3 46.7 1 292.3 97.0 34.6 27.1 75.5 396.2 363.7 650.0 67.4
32312 323121 323122	Support activities for printing Tradebinding & related work Prepress services	4 448 1 260 3 191	6 920 490 1 946 867 4 973 623	6.3 13.8 8.5	11.5 20.6 15.0	20.0 30.0 24.3	30.2 43.2 36.1	26.7 78.1 41.4
324	Petroleum & coal products mfg	1 166	177 393 098	26.0	44.2	74.4	89.8	350.0
3241 32411 324110	Petroleum & coal products mfg Petroleum refineries Petroleum refineries	1 166 122 122	177 393 098 158 667 598 158 667 598	26.0 28.5 28.5	44.2 48.6 48.6	74.4 81.6 81.6	89.8 97.6 97.6	350.0 422.1 422.1
32412 324121 324122	Asphalt paving, roofing, & saturated materials mfg . Asphalt paving mixture & block mfg Asphalt shingle & coating materials mfg	674 531 151	10 981 761 5 887 180 5 094 581	22.8 17.3 47.2	33.2 25.6 63.8	48.2 39.5 82.2	63.7 56.9 94.8	204.6 124.6 772.7
32419 324191 324199	Other petroleum & coal products mfg Petroleum lubricating oil & grease mfg All other petroleum & coal products mfg	403 344 61	7 743 739 6 070 406 1 673 333	26.8 34.2 39.9	37.6 45.4 65.6	57.1 64.1 90.7	77.3 80.0 99.7	300.9 434.0 644.1
325	Chemical mfg	9 626	415 616 508	11.9	18.2	32.7	50.8	76.6
3251 32511 325110	Basic chemical mfg Petrochemical mfg Petrochemical mfg	1 203 42 42	113 356 912 19 468 615 19 468 615	15.6 59.8 59.8	28.7 83.3 83.3	49.1 98.0 98.0	69.6 100.0 100.0	156.4 1 187.0 1 187.0
32512 325120	Industrial gas mfg Industrial gas mfg	119 119	5 416 308 5 416 308	64.1 64.1	84.9 84.9	95.8 95.8	98.8 98.8	1 224.7 1 224.7
32513 325131 325132	Dye & pigment mfg Inorganic dye & pigment mfg Synthetic organic dye & pigment mfg	152 59 95	6 438 366 3 745 010 2 693 356	43.7 66.8 42.0	56.4 79.4 58.8	76.1 95.0 83.1	93.6 99.9 97.2	748.7 1 848.3 699.5
32518 325181 325182 325188	Other basic inorganic chemical mfg Alkalies & chlorine mfg Carbon black mfg All other basic inorganic chemical mfg	409 26 8 385	20 731 059 2 465 183 990 391 17 275 485	30.1 79.7 D 31.1	40.7 92.3 100.0 41.6	60.9 99.8 N 62.7	80.9 100.0 N 81.8	336.4 2 870.1 2 075.1 394.4

See footnotes at end of table.

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

NACIS	Inductor group and inductor				Percent of value accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
325	Chemical mfg-Con.							
3251 32519 325191 325192 325192 325193 325199	Basic chemical mfg—Con. Other basic organic chemical mfg Gum & wood chemical mfg Cyclic crude & intermediate mfg Ethyl alcohol mfg All other basic organic chemical mfg	581 45 36 31 487	61 302 564 814 676 6 861 138 1 222 166 52 404 584	22.7 74.6 61.7 63.1 25.3	36.7 92.2 79.4 82.9 38.3	55.1 98.6 98.2 98.5 56.8	77.5 100.0 100.0 100.0 79.6	227.7 1 707.4 1 701.2 1 225.3 256.4
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg	469	64 417 772	26.7	37.7	60.1	84.6	312.9
32521	Resin & synthetic rubber mfg	406	51 379 595	24.8	37.4	60.9	86.3	277.3
325211	Plastics material & resin mfg	299	45 225 887	25.6	39.0	64.2	89.0	304.1
325212	Synthetic rubber mfg	122	6 153 708	39.0	61.8	93.1	98.8	618.2
32522	Artificial & synthetic fibers & filaments mfg	70	13 038 177	69.0	85.1	96.9	99.9	1 588.6
325221	Cellulosic organic fiber mfg	4	1 096 983	100.0	N	N	N	D
325222	Noncellulosic organic fiber mfg	67	11 941 194	69.1	86.6	97.6	99.9	1 708.4
3253 32531 325311 325312 325312 325314	Pesticide, fertilizer, & other agricultural chemical mfg . Fertilizer mfg Nitrogenous fertilizer mfg Phosphatic fertilizer mfg Fertilizer (mixing only) mfg	692 477 116 43 334	24 176 999 12 759 745 3 961 254 5 474 672 3 323 819	27.4 39.8 54.2 70.5 26.3	45.8 55.1 75.9 88.1 40.8	70.6 74.8 94.2 99.1 57.5	85.8 87.5 98.7 100.0 74.2	342.3 566.9 902.6 1 675.3 285.7
32532	Pesticide & other agricultural chemical mfg	222	11 417 254	48.8	73.0	89.1	96.2	811.2
325320	Pesticide & other agricultural chemical mfg	222	11 417 254	48.8	73.0	89.1	96.2	811.2
3254 32541 325411 325412 325413 325413 325414	Pharmaceutical & medicine mfg Pharmaceutical & medicine mfg Medicinal & botanical mfg Pharmaceutical preparation mfg In-vitro diagnostic substance mfg Biological product (except diagnostic) mfg	1 428 1 428 312 707 203 267	92 932 786 92 932 786 11 888 455 66 734 737 8 682 377 5 627 217	32.3 32.3 61.5 35.6 62.5 42.9	47.9 47.9 72.9 50.1 75.9 64.0	66.6 66.6 84.6 71.4 86.6 82.9	82.5 82.5 93.3 88.5 94.6 93.8	446.3 446.3 2 058.7 462.4 1 685.1 680.2
3255	Paint, coating, & adhesive mfg	1 724	26 369 629	23.6	35.5	52.2	66.3	220.1
32551	Paint & coating mfg	1 205	19 057 194	32.0	47.0	63.9	75.1	371.2
325510	Paint & coating mfg	1 205	19 057 194	32.0	47.0	63.9	75.1	371.2
32552	Adhesive mfg	540	7 312 435	22.3	32.6	50.5	72.1	217.2
325520	Adhesive mfg	540	7 312 435	22.3	32.6	50.5	72.1	217.2
3256	Soap, cleaning compound, & toilet preparation mfg	2 251	55 141 340	33.7	45.7	63.2	74.9	495.4
32561	Soap & cleaning compound mfg	1 583	30 928 488	40.7	55.1	68.1	78.0	625.9
325611	Soap & other detergent mfg	738	17 772 851	65.6	77.9	85.3	90.6	1 618.6
325612	Polish & other sanitation good mfg	675	8 369 554	55.1	60.7	71.2	83.2	1 090.5
325613	Surface active agent mfg	183	4 786 083	34.3	47.6	69.9	89.1	416.1
32562	Toilet preparation mfg	681	24 212 852	38.6	58.4	74.8	86.6	564.2
325620	Toilet preparation mfg	681	24 212 852	38.6	58.4	74.8	86.6	564.2
3259	Other chemical product mfg	2 287	39 221 070	25.4	32.1	44.5	59.2	378.4
32591	Printing ink mfg	255	4 076 500	55.4	63.1	75.5	88.2	1 227.4
325910	Printing ink mfg	255	4 076 500	55.4	63.1	75.5	88.2	1 227.4
32592	Explosives mfg	66	1 447 274	45.3	68.6	91.1	99.8	726.7
325920	Explosives mfg	66	1 447 274	45.3	68.6	91.1	99.8	726.7
32599 325991 325992 325998	All other chemical product & preparation mfg Custom compounding of purchased resin Photographic film, paper, plate, & chemical mfg All other miscellaneous chemical product &	1 973 728 276	33 697 296 7 960 246 12 918 747	28.0 14.9 69.7	35.1 25.2 83.0	47.5 45.0 92.9	63.0 67.1 98.1	493.9 137.2 D
326	preparation mfg	985	12 818 303	19.6	28.6	46.1	63.3	158.8
	Plastics & rubber products mfg	13 798	159 161 346	8.2	11.4	18.3	28.7	30.2
3261	Plastics product mfg	11 613	124 445 374	3.9	6.9	14.1	24.4	14.1
32611	Unsupported plastics film, sheet, & bag mfg	1 250	24 624 844	13.1	23.0	39.3	56.8	103.5
326111	Unsupported plastics bag mfg	440	7 300 237	24.7	35.9	52.9	70.1	236.4
326112 326113	Unsupported plastics packaging film & sheet mig Unsupported plastics film & sheet (except packaging) mtg	131 713	3 638 911 13 685 696	52.1 17.6	62.7 27.7	76.4 46.1	91.9 66.1	818.6 149.2
32612	Plastics pipe, pipe fitting, & unsupported profile	1 048	9 228 294	15.0	24.9	41.9	59.5	121.0
326121 326122	shape mfg Unsupported plastics profile shape mfg Plastics pipe & pipe fitting mfg	1 048 733 317	9 228 294 4 436 148 4 792 146	15.8 25.5 23.9	24.9 34.8 37.4	41.9 50.3 59.8	59.5 65.3 78.8	121.0 234.5 260.2
32613	Laminated plastics plate, sheet, & shape mfg	438	3 195 293	36.0	53.2	74.3	87.1	523.9
326130	Laminated plastics plate, sheet, & shape mfg	438	3 195 293	36.0	53.2	74.3	87.1	523.9
32614	Polystyrene foam product mfg	379	4 899 240	41.4	50.0	65.5	82.7	665.4
326140	Polystyrene foam product mfg	379	4 899 240	41.4	50.0	65.5	82.7	665.4
32615 326150	Urethane & other foam product (except polystyrene) mfg Urethane & other foam product (except	447	6 664 656	32.3	43.5	62.9	78.8	403.1
32616	polystyrene) mfg	447 245	6 664 656 6 335 218	32.3 32.7	43.5 51.8	62.9 72.9	78.8 88.2	403.1 425.0
326160	Plastics bottle mfg	245	6 335 218	32.7	51.8	72.9	88.2	425.0
32619	Other plastics product mfg	8 077	69 497 829	5.1	8.2	14.4	24.0	15.6
326191	Plastics plumbing fixture mfg	539	2 181 207	34.9	44.6	58.8	74.8	396.2
326192	Resilient floor covering mfg	28	1 684 216	86.9	98.9	99.9	100.0	2 983.5
326199	All other plastics product mfg	7 522	65 632 406	5.0	8.1	13.9	23.3	14.9

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

NACIS	g of abbreviations and symbols, see introductory text. For ex				Percent of value of accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
326	Plastics & rubber products mfg-Con.							
3262 32621 326211 326212	Rubber product mfg Tire mfg Tire mfg (except retreading) Tire retreading	2 271 736 110 628	34 715 972 15 699 140 14 728 525 970 615	36.8 68.4 72.4 25.5	46.4 85.8 90.8 36.5	57.8 93.0 98.0 50.1	68.4 96.4 99.8 64.5	444.8 1 517.8 1 690.3 260.6
32622 326220	Rubber & plastics hoses & belting mfg Rubber & plastics hoses & belting mfg	149 149	4 025 238 4 025 238	49.3 49.3	61.9 61.9	80.2 80.2	94.9 94.9	786.1 786.1
32629 326291 326299	Other rubber product mfg Rubber product mfg for mechanical use All other rubber product mfg	1 408 608 827	14 991 594 6 668 381 8 323 213	12.1 19.2 17.5	20.4 28.8 27.5	34.4 45.7 43.2	51.6 67.6 60.8	82.5 166.3 139.7
327	Nonmetallic mineral product mfg	11 921	86 464 708	9.1	16.4	27.7	41.5	52.1
3271 32711 327111	Clay product & refractory mfg Pottery, ceramics, & plumbing fixture mfg Vitreous china plumbing fixture & bathroom	1 715 1 204	9 107 840 3 992 979	13.5 21.8	22.5 33.7	40.1 51.6	60.4 71.8	108.5 210.7
327112	vitreous china, fine earthenware, & other pottery	43 1 034	1 109 995	63.8 24.7	87.2 35.9	99.1 54.0	100.0 70.9	1 456.7 244.8
327113	product mfg Porcelain electrical supply mfg	131	1 715 783 1 167 201	32.4	48.5	73.3	93.2	244.8 487.5
32712 327121 327122 327123 327123 327124 327125	Clay building material & refractories mfg Brick & structural clay tile mfg Other structural clay product mfg Clay refractory mfg Nonclay refractory mfg	519 127 157 48 115 91	5 114 861 1 411 833 851 405 117 376 1 115 939 1 618 308	20.8 40.4 58.5 44.0 39.9 41.2	33.4 58.3 75.6 68.7 54.7 60.5	56.0 73.9 91.3 95.2 75.2 85.9	75.6 92.2 97.4 100.0 93.2 98.1	215.5 549.9 1 309.4 827.2 575.1 603.3
3272 32721 327211 327212 327213 327213 327215	Glass & glass product mfg Glass & glass product mfg Flat glass mfg Other pressed & blown glass & glassware mfg Glass container mfg Glass product mfg made of purchased glass	1 996 1 996 13 465 11 1 522	22 732 942 22 732 942 2 795 507 6 094 602 4 198 122 9 644 711	31.0 31.0 77.4 48.2 91.1 28.8	46.3 46.3 99.5 68.8 98.0 45.2	68.3 68.3 100.0 90.9 100.0 64.4	84.2 84.2 N 96.6 N 77.1	359.0 359.0 1 828.9 760.5 2 959.9 366.3
3273 32731 327310	Cement & concrete product mfg Cement mfg Cement mfg	5 930 176 176	34 591 507 6 531 747 6 531 747	8.3 33.5 33.5	14.4 52.0 52.0	25.0 78.7 78.7	35.8 96.9 96.9	40.7 466.6 466.6
32732 327320	Ready-mix concrete mfg Ready-mix concrete mfg	2 888 2 888	17 219 886 17 219 886	7.0 7.0	11.1 11.1	20.0 20.0	33.0 33.0	29.4 29.4
32733 327331 327332	Concrete pipe, brick, & block mfg Concrete block & brick mfg Concrete pipe mfg	955 708 264	4 852 512 2 844 076 2 008 436	16.4 12.5 26.4	22.0 17.7 37.3	31.9 28.1 55.4	45.3 43.4 73.9	96.7 69.8 290.6
32739 327390	Other concrete product mfg Other concrete product mfg	2 079 2 079	5 987 362 5 987 362	10.0 10.0	15.8 15.8	26.7 26.7	41.8 41.8	52.6 52.6
3274 32741 327410	Lime & gypsum product mfg Lime mfg Lime mfg	230 46 46	5 533 623 1 168 450 1 168 450	54.0 44.9 44.9	65.4 65.1 65.1	81.5 88.5 88.5	95.3 100.0 100.0	1 000.8 719.4 719.4
32742 327420	Gypsum product mfg Gypsum product mfg	185 185	4 365 173 4 365 173	68.4 68.4	79.1 79.1	93.4 93.4	97.9 97.9	1 557.2 1 557.2
3279 32791 327910	Other nonmetallic mineral product mfg Abrasive product mfg Abrasive product mfg	2 159 319 319	14 498 796 4 660 043 4 660 043	33.4 60.4 60.4	42.2 65.3 65.3	50.7 74.0 74.0	61.3 84.2 84.2	333.3 1 691.7 1 691.7
32799 327991 327992 327993 327993 327999	All other nonmetallic mineral product mfg Cut stone & stone product mfg Ground or treated mineral & earth mfg Mineral wool mfg All other miscellaneous nonmetallic mineral product mfg	1 849 1 004 261 201 404	9 838 753 1 244 735 2 362 480 4 422 507 1 809 031	28.6 19.2 27.0 62.0 17.5	37.8 23.6 38.0 75.5 28.0	48.0 33.0 59.2 86.1 47.0	61.4 46.3 80.5 95.3 67.1	277.2 153.2 369.5 1 203.6 155.2
331	Primary metal mfg	404	168 117 728	13.8	20.0	37.3	54.1	97.4
3311 33111 331111 331112	Iron & steel mills & ferroalloy mfg Iron & steel mills & ferroalloy mfg Iron & steel mills . Electrometallurgical ferroalloy product mfg	209 209 191 19	58 383 159 58 383 159 56 994 468 1 388 691	31.9 31.9 32.7 60.6	51.4 51.4 52.7 82.4	73.0 73.0 74.8 100.0	91.8 91.8 93.6 N	424.7 424.7 445.3 1 122.8
3312	Steel product mfg from purchased steel	503	18 516 877	16.7	25.6	40.5	62.0	126.6
33121 331210	Iron & steel pipes & tubes mfg from purchased steel Iron & steel pipes & tubes mfg from purchased	166	7 450 132	19.5	29.7	51.6	81.7	199.6
	steel	166	7 450 132	19.5	29.7	51.6	81.7	199.6
33122 331221 331222	Rolling & drawing of purchased steel Cold-rolled steel shape mfg Steel wire drawing	346 153 199	11 066 745 6 239 017 4 827 728	24.8 44.0 21.3	35.1 60.0 35.6	54.9 80.6 56.0	76.0 96.3 79.7	240.4 630.5 223.2
3313 33131 331311 331312 331312 331314 331315 331316 331319	Alumina & aluminum production & processing Alumina & aluminum production & processing Alumina refining Primary aluminum production Secondary smelting & alloying of aluminum Aluminum sheet, plate, & foil mfg Aluminum extruded product mfg Other aluminum rolling & drawing	248 248 5 13 87 41 105 30	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	48.0 48.0 59.2 40.7 65.0 44.5 62.7	64.0 64.0 100.0 81.7 53.7 85.4 58.9 79.4	79.1 79.1 N 100.0 76.0 97.9 75.2 98.4	89.1 89.1 N 94.3 100.0 91.1 100.0	816.3 816.3 D 1 230.6 629.6 1 447.0 680.0 1 162.8

See footnotes at end of table.

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

NACIS	Industry group and industry		Malua af		Percent of value of accounted for	of shipments r by the-		Herfindahl- Herschmann
code	mousity group and mousity	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
331	Primary metal mfg-Con.							
3314	Nonferrous metal (except aluminum) production &	698	29 616 370	24.3	34.7	52.8	71.8	242.6
33141	processing	134	9 530 263	64.1	74.7	52.0 89.1	98.2	1 178.4
331411	Primary smelting & refining of copper	9	6 128 370	94.5	74.7 D	100.0	98.2 N	2 392.3
331419	Other nonferrous metal primary smelting & refining	127	3 401 893	32.7	49.6	77.9	96.5	431.3
33142 331421	Copper rolling, drawing, extruding, & alloying Copper rolling, drawing, & extruding	154 91	9 800 616 7 619 953	30.0 37.4	50.2 62.8	75.1 88.7	92.5 99.1	404.5 598.8
331422 331423	Copper wire (except mechanical) drawing Secondary smelting, refining, & alloying of	33	983 284	48.5	69.7	94.7	100.0	851.8
	copper	34	1 197 379	50.5	73.4	93.1	100.0	986.2
33149	Other nonferrous metal rolling, drawing, extruding, & alloying	440	10 285 491	20.2	30.8	51.0	73.0	190.0
331491	Other nonferrous metal rolling, drawing, & extruding	220	7 057 705	28.1	43.6	66.4	86.1	325.9
331492	Other nonferrous metal secondary smelting, refining, & alloying	233	3 227 786	22.0	37.4	58.8	82.7	244.8
3315	Foundries	2 521	29 051 043	13.4	21.1	34.9	49.4	93.6
33151 331511	Ferrous metal foundries Iron foundries	986 602	17 428 045 12 187 267	18.2 25.1	30.3 40.1	48.4 60.0	66.3 76.3	176.4 292.1
331512 331513	Steel investment foundries Steel foundries (except investment)	145 263	2 341 737 2 899 041	46.1 26.6	61.4 38.9	77.1 62.2	90.9 83.7	795.3 337.5
33152	Nonferrous metal foundries	1 559	11 622 998	12.2	19.7	32.3	48.6	74.8
331521 331522	Aluminum die-casting foundries Nonferrous (except aluminum) die-casting	291	3 843 845	25.7	37.2	55.1	77.0	258.3
331524	foundriesAluminum foundries (except die-casting)	267 592	1 998 772 3 916 527	18.0 19.3	28.4 30.9	49.4 51.6	74.5 71.4	170.6 183.0
331525 331528	Copper foundries (except die-casting) Other nonferrous foundries (except die-casting)	301 136	846 578 1 017 276	13.4 71.2	23.0 78.3	42.7 88.5	68.3 96.8	127.7 2 147.9
332	Fabricated metal product mfg	58 516	242 813 453	3.5	5.8	10.9	18.0	8.5
3321	Forging & stamping Forging & stamping	3 026	24 375 589	7.9	12.0	19.4	30.5	29.2 29.2
33211 332111	Iron & steel forging	3 026 390	24 375 589 4 869 727	7.9 24.2	12.0 33.5	19.4 50.6	30.5 72.9	237.4
332112 332114	Nonferrous forging	75 360	1 838 385 3 301 907	47.4 28.4	65.8 37.7	88.2 54.8	99.1 73.1	990.5 387.5
332115 332116	Crown & closure mfg Metal stamping Powder metallurgy part mfg	55 2 051	953 864 12 078 985	58.2 7.6	77.9 11.3	93.2 18.1	99.9 29.3	1 119.7 27.7
332117		114	1 332 721	28.7	45.1	68.3	90.9	355.4
3322 33221	Cutlery & handtool mfg Cutlery & handtool mfg Cutlery & flatware (except precious) mfg	1 545 1 545	11 475 344 11 475 344	18.3 18.3	28.2 28.2	45.3 45.3	64.0 64.0	157.0 157.0
332211 332212	Hand & edge tool mfg	163 1 164	2 013 256 6 713 485	64.6 21.4	75.2 31.3	88.1 48.6	96.7 66.2	1 990.3 182.0
332213 332214	Saw blade & handsaw mfg Kitchen utensil, pot, & pan mfg	166 69	1 447 890 1 300 713	39.6 57.8	53.6 80.7	79.6 93.0	93.7 99.6	609.4 1 203.3
3323	Architectural & structural metals mfg	11 649	53 547 213 23 574 845	4.4	7.4	14.2	23.4	14.5
33231 332311	Plate work & fabricated structural product mfg Prefabricated metal building & component mfg	4 423 557	4 686 554	8.9 26.1	13.7 41.3	22.4 59.8	34.1 75.8	41.1 274.9
332312 332313	Fabricated structural metal mfg Plate work mfg	2 872 1 011	16 115 143 2 773 148	11.0 7.4	15.4 12.5	25.0 24.2	36.9 40.7	57.4 41.8
33232 332321	Ornamental & architectural metal products mfg Metal window & door mfg	7 275 1 249	29 972 368 10 209 522	5.3 14.5	9.3 24.7	16.3 41.0	27.7 59.9	19.6 115.4
332322 332323	Sheet metal work mfg Ornamental & architectural metal work mfg	4 202 1 845	15 584 570 4 178 276	4.1	7.5	15.4 32.1	25.4 45.2	15.8
3324	Boiler, tank, & shipping container mfg	1 526	22 714 389	30.4	46.0	57.1	68.1	338.9
33241 332410	Power boiler & heat exchanger mfg Power boiler & heat exchanger mfg	436	3 867 379 3 867 379	16.9 16.9	25.5 25.5	42.0 42.0	64.3 64.3	140.4 140.4
33242	Metal tank (heavy gauge) mfg	552	4 703 647	16.6	27.1	42.7	59.6	132.4
332420	Metal tank (heavy gauge) mfg	552	4 703 647	16.6	27.1	42.7	59.6	132.4
33243	Metal can, box, & other metal container (light gauge) mfg	557	14 143 363	48.9	73.8	84.4	91.6	846.7
332431 332439	Metal can mfg Other metal container mfg	107 455	11 930 448 2 212 915	57.9 20.8	87.1 30.9	96.8 49.6	99.5 71.2	1 180.2 194.3
3325	Hardware mfg	906	11 061 736	17.4	27.7	47.4	68.6	154.6
33251 332510	Hardware mfg	906 906	11 061 736 11 061 736	17.4 17.4	27.7 27.7	47.4 47.4	68.6 68.6	154.6 154.6
3326	Spring & wire product mfg	1 646	8 533 707	14.6	20.4	31.0	43.9	103.1
33261 332611	Spring & wire product mfg Spring (heavy gauge) mfg	1 646 124	8 533 707 845 199	14.6 31.7	20.4 49.5	31.0 72.2	43.9 92.8	103.1 404.9
332612 332618	Spring (light gauge) mfg Other fabricated wire product mfg	320 1 213	2 481 151 5 207 357	38.7 11.8	49.4 18.3	63.7 29.1	78.9 44.6	677.9 66.8
3327	Machine shops, turned product, & screw, nut, & bolt	00,000	40,000,004				10.0	<u> </u>
33271	mfg . Machine shops .	26 999 23 430	43 362 901 26 850 065	3.8 1.6	5.4 2.7	8.6 4.9	13.3 8.7	6.4 1.9
332710	Machine shops	23 430	26 850 065	1.6	2.7	4.9	8.7	1.9
33272 332721	Turned product & screw, nut, & bolt mfg Precision turned product mfg	3 593 2 696	16 512 836 8 304 805	9.4 3.6	13.7 6.7	21.3 13.3	31.9 23.9	40.2 13.2
332722	Bolt, nut, screw, rivet, & washer mfg	913 5 995	8 208 031	19.0	27.5	41.4	58.1	153.1
3328 33281 222811	Coating, engraving, heat treating, & allied activities Coating, engraving, heat treating, & allied activities.	5 885 5 885	17 956 236 17 956 236	10.2 10.2	15.6 15.6	24.7 24.7	36.0 36.0	46.2 46.2
332811 332812	Metal heat treating	662	3 442 317	23.7	35.6	50.1	64.6	239.6
332813	allied services Electroplating, plating, polishing, anodizing, &	1 978	8 515 488	21.4	30.5	46.1	58.7	164.8
	coloring	3 286	5 998 431	4.6	8.3	14.9	25.1	16.1

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NACIS	g of abbreviations and symbols, see introductory text. For ex	pianation of terms,			Percent of value accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
332	Fabricated metal product mfg-Con.							
3329 33291 332911 332912 332913 332913 332919	Other fabricated metal product mfg Metal valve mfg Industrial valve mfg Fluid power valve & hose fitting mfg Plumbing fixture fitting & trim mfg Other metal valve & pipe fitting mfg	6 040 1 077 429 360 97 220	49 786 338 21 983 284 8 965 193 6 594 554 3 616 737 2 806 800	9.8 18.1 27.5 40.3 44.6 22.9	16.3 28.5 37.5 53.4 57.6 35.5	29.2 43.4 56.5 70.3 77.9 60.2	43.8 61.4 75.5 85.8 95.7 81.9	57.2 144.0 323.2 529.6 783.3 249.6
33299 332991 332992 332993 332994 332995 332995 332996 332997 332998 332999	All other fabricated metal product mfg Ball & roller bearing mfg Small arms ammunition mfg Ammunition (except small arms) mfg Stall arms mfg Other ordnance & accessories mfg Fabricated pipe & pipe fitting mfg Industrial patterm mfg Enameled iron & metal sanitary ware mfg All other miscellaneous fabricated metal product mfg	5 011 116 107 45 189 65 806 668 82 2 955	27 803 054 6 093 840 976 944 1 471 101 1 248 048 1 362 401 4 118 699 623 605 1 553 730 10 354 686	11.8 49.4 88.9 66.5 41.5 78.3 18.6 11.0 54.1 11.8	18.5 66.3 93.8 84.5 64.9 88.6 26.1 17.5 74.1 17.1	31.7 89.5 97.5 98.7 87.5 95.9 38.8 30.2 93.8 26.0	45.9 98.6 99.4 100.0 94.6 99.8 55.5 48.0 99.4 40.1	73.6 887.3 D 1 782.9 663.2 1 935.8 1 30.9 66.8 1 301.0 60.2
333	Machinery mfg	27 983	270 687 165	11.5	15.6	23.9	34.3	55.4
3331 33311 333111 333112	Agriculture, construction, & mining machinery mfg Agricultural implement mfg Farm machinery & equipment mfg Lawn & garden tractor & home lawn & garden equipment mfg	2 832 1 386 1 264 127	54 181 573 23 371 367 15 995 219 7 376 148	37.8 50.0 53.2 64.4	45.7 60.1 60.4 80.3	57.2 71.1 70.5 94.3	69.3 81.8 80.1 98.8	572.5 1 246.1 1 707.2 1 171.7
33312 333120	Construction machinery mfg Construction machinery mfg	723 723	22 117 440 22 117 440	49.6 49.6	59.5 59.5	72.6 72.6	84.6 84.6	1 020.3 1 020.3
33313 333131 333132	Mining & oil & gas field machinery mfg	748 261 494	8 692 766 2 705 885 5 986 881	23.6 36.4 30.5	36.7 50.9 46.2	57.7 69.9 68.5	75.2 86.1 83.4	245.8 515.5 391.7
3332 33321 333210	Industrial machinery mfg Sawmill & woodworking machinery mfg Sawmill & woodworking machinery mfg	4 439 312 312	36 658 714 1 296 200 1 296 200	13.5 30.0 30.0	18.7 43.2 43.2	29.1 62.9 62.9	41.9 81.2 81.2	89.4 344.8 344.8
33322 333220	Plastics & rubber industry machinery mfg Plastics & rubber industry machinery mfg	427 427	3 570 320 3 570 320	30.2 30.2	41.5 41.5	57.2 57.2	76.5 76.5	373.9 373.9
33329 333291 333292 333293 333294 333295 333298	Other industrial machinery mfg Paper industry machinery mfg Textile machinery mfg Printing machinery & equipment mfg Food product machinery mfg Semiconductor machinery mfg All other industrial machinery mfg	3 713 330 454 504 573 244 1 634	31 792 194 3 386 920 1 766 419 3 786 716 2 857 928 11 162 764 8 831 447	15.4 37.2 24.4 29.6 19.1 43.5 10.6	21.4 53.1 36.4 41.5 27.1 59.4 16.6	32.5 69.5 53.8 59.2 41.0 77.2 27.8	45.8 83.4 72.0 75.8 60.0 91.4 43.3	114.9 490.3 269.3 326.8 139.8 818.4 57.5
3333 33331 333311 233311	Commercial & service industry machinery mfg Commercial & service industry machinery mfg Automatic vending machine mfg	2 492 2 492 117	26 009 857 26 009 857 1 327 998	30.2 30.2 67.9	35.7 35.7 84.1	45.8 45.8 92.3	58.8 58.8 97.5	401.5 401.5 1 484.3
333312 333313 333314 333315 333319	Commercial laundry, drycleaning, & pressing machine mfg Office machinery mfg Optical instrument & lens mfg Photographic & photocopying equipment mfg Other commercial & service industry machinery mfg	63 158 482 412 1 274	604 939 3 162 823 3 139 837 8 290 986 9 483 274	44.7 53.0 25.4 80.9 14.0	65.4 68.2 38.4 85.0 21.9	92.0 81.2 56.1 90.6 36.7	99.7 93.5 74.7 94.5 54.6	779.0 1 208.3 263.2 D 95.3
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg	1 563	30 791 331	29.7	39.8	54.9	67.3	283.3
33341 333411 333412 333414	Ventilation, heating, AC, & commercial refrigeration equip mfg Air purification equipment mfg Industrial & commercial fan & blower mfg Heating equipment (except warm air furnaces)	1 563 333 173	30 791 331 2 218 051 1 899 077	29.7 21.3 22.5	39.8 33.3 38.4	54.9 53.8 64.4	67.3 75.1 87.2	283.3 207.5 276.4
333415	AC & warm air heating & commercial/industrial refrig equip mfg.	441 646	3 707 615 22 966 588	20.2 39.2	31.0 52.6	49.8 71.6	72.6 83.5	182.9 491.0
3335 33351 333511 333512 333512 333513 333514 333515 333516 333518	Metalworking machinery mfg Metalworking machinery mfg Industrial mold mfg Machine tool (metal cutting types) mfg Machine tool (metal forming types) mfg Special die & tool, die set, jig, & fixture mfg Cutting tool & machine tool accessory mfg Rolling mill machinery & equipment mfg Other metalworking machinery mfg	10 000 10 000 2 475 368 219 4 667 1 820 98 446	$\begin{array}{c} 30 \ \ 417 \ \ 553 \\ 30 \ \ 417 \ \ 553 \\ 5 \ \ 087 \ \ 422 \\ 5 \ \ 331 \ \ 245 \\ 2 \ \ 247 \ \ 954 \\ 8 \ \ 237 \ \ 755 \\ 5 \ \ 379 \ \ 842 \\ 700 \ \ 084 \\ 3 \ \ 433 \ \ 251 \end{array}$	7.3 7.3 6.6 24.7 21.2 5.5 21.6 53.0 53.0 17.2	10.7 10.7 9.8 40.7 33.8 8.4 27.9 72.7 27.4	16.8 16.8 59.2 54.6 14.6 40.0 87.0 43.9	26.1 26.7 75.5 74.7 24.0 54.0 97.0 64.7	23.2 23.2 22.4 267.2 208.7 16.5 206.4 908.1 140.7
3336 33361	Engine, turbine, & power transmission equipment mfg Engine, turbine, & power transmission equipment	789	30 508 866	42.5	57.8	73.1	85.8	596.2
333611 333612	mig Turbine & turbine generator set unit mfg Speed changer, industrial high-speed drive, & gear mfg	789 68 237	30 508 866 5 854 113 2 391 269	42.5 78.2 29.0	57.8 90.1 45.7	73.1 97.4 68.6	85.8 99.9 83.6	596.2 2 390.1 345.2
333613 333618	Mechanical power transmission equipment mfg Other engine equipment mfg	237 259 245	3 252 399 19 011 085	29.0 26.1 55.8	43.7 41.6 76.0	64.6 90.1	83.6 86.6 97.0	345.2 303.4 1 019.1

See footnotes at end of table.

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

NACIS	Industry group and industry				Percent of value accounted for			Herfindahl- Herschmann
code		Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
333	Machinery mfg-Con.							
3339 33391 333911 333912 333912 333913	Other general-purpose machinery mfg Pump & compressor mfg Pump & pumping equipment mfg Air & gas compressor mfg Measuring & dispensing pump mfg	6 347 723 406 269 63	62 119 271 13 683 351 6 735 133 5 651 176 1 297 042	6.4 19.2 24.3 30.9 65.6	11.4 29.8 37.5 46.6 81.6	22.1 49.4 58.5 71.1 94.5	36.6 72.5 82.0 90.4 99.6	33.6 176.8 267.2 382.8 1 581.3
33392 333921 333922 333923	Material handling equipment mfg Elevator & moving stairway mfg Conveyor & conveying equipment mfg Overhead traveling crane, hoist, & monorail	1 741 178 864	16 646 105 1 607 066 6 364 898	14.1 52.7 17.6	23.1 65.6 23.5	39.1 77.9 36.1	53.6 90.5 52.2	103.8 846.7 114.4
333924	system mfg Industrial truck, tractor, trailer, & stacker machinery mfg	283 435	3 135 815 5 538 326	35.7 38.5	51.0 52.3	70.5 67.4	85.6 80.2	477.3 503.0
33399 333991 333992 333993 333994 333994 333995 333996 333997 333999	All other general-purpose machinery mfg Power-driven handtool mfg Welding & soldering equipment mfg Packaging machinery mfg Industrial process furnace & oven mfg Fluid power cylinder & actuator mfg Fluid power gumg & motor mfg Scale & balance (except laboratory) mfg All other miscellaneous general-purpose machinery mfg	3 938 198 218 644 378 282 149 110 2 005	31 789 815 3 609 779 4 444 978 4 900 477 2 869 912 3 542 331 2 811 223 682 181 8 928 934	11.0 47.0 53.4 16.6 22.3 44.2 48.7 57.2 11.7	17.6 68.7 64.8 26.2 33.3 53.9 73.2 67.0 18.1	29.5 89.5 77.7 44.3 52.1 70.7 89.1 81.9 30.6	44.3 96.2 89.9 63.1 71.5 87.4 96.1 94.9 47.1	62.5 816.6 1 000.8 145.3 217.0 697.2 819.0 1 136.9 70.7
334	Computer & electronic product mfg	15 492	439 381 300	19.1	28.1	41.1	55.0	136.6
3341 33411 334111 334112 334113 334113 334119	Computer & peripheral equipment mfg Computer & peripheral equipment mfg Electronic computer mfg Computer storage device mfg Computer terminal mfg Other computer peripheral equipment mfg	1 870 1 870 531 203 141 1 015	110 054 987 110 054 987 66 301 810 15 354 924 1 486 965 26 911 288	37.0 37.0 45.4 53.1 39.4 45.3	52.1 52.1 68.5 77.1 64.5 60.2	72.8 72.8 91.4 92.9 87.2 73.0	86.3 86.3 97.2 98.1 96.5 85.4	464.9 464.9 727.9 1 015.8 645.4 659.7
3342 33421 334210	Communications equipment mfg Telephone apparatus mfg Telephone apparatus mfg	2 078 548 548	82 852 421 38 375 534 38 375 534	36.5 54.4 54.4	49.3 66.5 66.5	63.7 78.5 78.5	75.8 88.2 88.2	449.0 999.4 999.4
33422 334220	Radio & TV broadcasting & wireless communications equipment mfg Radio & TV broadcasting & wireless communications equipment mfg	1 096 1 096	40 373 077 40 373 077	48.9 48.9	59.2 59.2	71.1 71.1	81.6 81.6	971.9 971.9
33429 334290	Other communications equipment mfg Other communications equipment mfg	461 461	4 103 810 4 103 810	38.1 38.1	50.2 50.2	68.6 68.6	84.9 84.9	526.0 526.0
3343 33431 334310	Audio & video equipment mfg Audio & video equipment mfg Audio & video equipment mfg	521 521 521	8 226 685 8 226 685 8 226 685	29.8 29.8 29.8	52.4 52.4 52.4	74.6 74.6 74.6	87.8 87.8 87.8	414.7 414.7 414.7
3344 33441 334412 334413 334413 334413 334415 334415 334416 334417 334418 334419	Semiconductor & other electronic component mfg Semiconductor & other electronic component mfg Electron tube mfg Semiconductor & related device mfg Electronic capacitor mfg Electronic cosistor mfg Electronic coil, transformer, & other inductor mfg. Electronic connector mfg. Printed circuit assembly (electronic assembly) mfg.	5 652 5 652 147 1 319 993 112 90 426 281 673 1 781	139 083 873 139 083 873 3 789 948 8 507 125 78 479 496 2 560 984 1 240 008 1 524 064 5 550 540 27 103 573 10 328 135	34.3 34.3 57.3 16.3 52.5 61.1 42.6 13.5 50.7 40.6 7.8	42.8 42.8 80.2 24.7 64.0 74.9 59.1 21.8 62.0 53.0 13.6	54.2 91.5 39.3 78.0 88.2 82.3 38.6 76.1 67.0 25.5	65.5 98.1 58.1 88.5 97.3 97.0 57.3 88.3 79.4 42.6	413.7 413.7 1 183.4 117.4 1 080.1 1 086.3 719.4 102.9 1 356.2 605.0 46.4
3345	Other electronic component mfg Navigational, measuring, medical, & control	1 701	10 326 135	7.0	13.0	20.0	42.0	40.4
33451	instruments mfg Navigational, measuring, medical, & control instruments mfg	4 845 4 845	89 465 709 89 465 709	24.1 24.1	33.2 33.2	47.4 47.4	61.0 61.0	207.5 207.5
334510	Electromedical & electrotherapeutic apparatus	490	11 581 624	22.7	37.7	60.0	82.0	250.3
334511 334512 334513 334514 334515 334516 334517 334518 334518 334519	Search, detection, navigation, & guidance instrument mfg Automatic environmental control mfg Totalizing fluid meter & counting device mfg Electricity measuring & testing instrument mfg Analytical laboratory instrument mfg Irradiation apparatus mfg Watch, clock, & part mfg Other measuring & controlling device mfg	579 297 919 210 762 637 134 145 826	32 661 495 2 943 971 7 662 564 3 716 095 14 025 050 6 899 852 3 970 454 921 827 5 082 777	56.7 52.8 30.8 53.2 42.7 33.6 58.3 48.1 16.0	75.0 64.3 39.1 68.2 53.7 48.3 77.4 62.7 25.6	87.7 77.6 53.0 86.4 65.7 64.0 91.4 86.9 40.0	94.6 87.6 66.5 94.4 79.5 77.3 97.3 96.9 96.9 57.7	1 144.6 918.6 317.4 1 250.6 632.7 387.0 1 190.1 750.2 117.5
3346 33461 334611 334612	Mfg & reproducing magnetic & optical media Mfg & reproducing magnetic & optical media Software reproducing Prerecorded CD (except software), tape, &	843 843 112	9 697 625 9 697 625 1 209 207	25.2 25.2 65.3	41.1 41.1 75.2	65.3 65.3 87.1	81.8 81.8 96.6	294.1 294.1 D
334613	record reproducing	492 241	3 809 652 4 678 766	39.3 37.9	56.0 59.4	73.8 87.0	85.3 95.9	539.4 585.7
335	Electrical equipment, appliance, & component mfg	5 839	112 116 267	14.8	23.2	36.8	51.0	105.9
3351 33511 335110	Electric lighting equipment mfg Electric lamp bulb & part mfg Electric lamp bulb & part mfg	1 211 54 54	12 710 091 3 306 009 3 306 009	35.3 88.9 88.9	49.2 94.3 94.3	61.4 98.6 98.6	71.9 99.9 99.9	396.4 2 849.0 2 849.0
33512 335121 335122	Lighting fixture mfg Residential electric lighting fixture mfg Commercial/industrial/institutional electric lighting fixture mfo	1 160 543 326	9 404 082 2 255 251 4 101 442	28.6 24.5 43.5	39.6 36.5 59.4	52.6 55.8 71.2	65.6 73.6 83.3	272.8 266.3 666.4
335129	fixture mfg Other lighting equipment mfg	310	3 047 389	25.1	38.2	59.7	80.9	262.1

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For ex	planation of terms,			Percent of value accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
335	Electrical equipment, appliance, & component mfg- Con.							
3352	Household appliance mfg	265	21 394 445	53.6	65.0	80.1	95.3	816.2
33521	Small electrical appliance mfg	144	5 907 367	35.0	53.3	85.1	98.2	510.4
335211	Electric housewares & household fan mfg	119	3 532 813	43.1	65.1	92.6	98.7	777.5
335212	Household vacuum cleaner mfg	25	2 374 554	68.5	92.4	99.9	100.0	1 437.9
33522	Major appliance mfg	126	15 487 078	66.6	78.5	93.7	99.1	1 276.3
335221	Household cooking appliance mfg	77	3 520 635	58.1	78.3	94.8	99.8	1 083.2
335222	Household refrigerator & home freezer mfg	21	4 887 364	81.5	97.0	D	100.0	2 025.1
335224	Household laundry equipment mfg	10	3 847 002	90.4	D	100.0	N	2 870.3
335228	Other major household appliance mfg	32	3 232 077	56.6	86.2	99.5	100.0	1 086.8
3353 33531 335311 335312 335313 335313 335314	Electrical equipment mfg . Electrical equipment mfg . Power, distribution, & specialty transformer mfg . Motor & generator mfg Switchgear & switchboard apparatus mfg Relay & industrial control mfg.	2 517 2 517 275 559 496 1 241	36 233 634 36 233 634 4 743 781 12 174 434 7 488 911 11 826 508	25.7 25.7 40.9 33.0 49.6 38.3	40.2 40.2 61.0 47.0 64.3 47.9	55.5 55.5 78.9 68.1 76.1 58.3	68.0 68.0 91.4 84.9 85.0 70.0	255.5 255.5 592.0 439.0 753.5 569.5
3359	Other electrical equipment & component mfg	1 939	41 778 097	11.5	18.4	33.0	55.2	80.8
33591	Battery mfg	127	6 823 196	46.5	71.9	91.9	98.8	814.7
335911	Storage battery mfg	96	4 435 329	52.0	75.0	92.4	99.1	898.7
335912	Primary battery mfg	35	2 387 867	90.1	97.7	99.8	100.0	2 882.9
33592	Communication & energy wire & cable mfg	219	15 245 693	28.0	42.1	69.5	87.0	335.6
335921	Fiber optic cable mfg	36	2 772 428	69.0	84.5	96.8	100.0	1 790.9
335929	Other communication & energy wire mfg	193	12 473 265	28.4	41.7	69.7	87.8	340.2
33593	Wiring device mfg	604	10 328 708	17.4	29.6	52.4	77.5	185.7
335931	Current-carrying wiring device mfg	446	5 877 522	21.2	35.0	59.1	80.3	232.0
335932	Noncurrent-carrying wiring device mfg	168	4 451 186	30.8	50.5	82.3	95.8	440.1
33599 335991 335999	All other electrical equipment & component mfg Carbon & graphite product mfg All other miscellaneous electrical equipment & component mfg	1 026 99 928	9 380 500 2 340 732 7 039 768	12.8 51.4 10.9	21.0 71.6 20.2	37.4 88.1 34.8	55.2 97.5 52.8	93.9 813.2 81.1
336	Transportation equipment mfg	10 979	575 306 996	49.7	57.8	68.6	77.5	797.6
3361 33611 336111 336112	Motor vehicle mfg. Automobile & light duty motor vehicle mfg Automobile mfg Light truck & utility vehicle mfg	325 253 173 84	220 052 857 205 543 825 95 365 667 110 178 158	82.4 88.3 79.5 99.3	91.8 97.5 96.3 99.9	98.8 99.7 99.5 99.9	99.7 99.9 99.9 99.9 99.9	2 505.8 2 862.8 2 349.7 D
33612	Heavy duty truck mfg	75	14 509 032	74.4	90.3	98.5	99.8	1 597.1
336120		75	14 509 032	74.4	90.3	98.5	99.8	1 597.1
3362	Motor vehicle body & trailer mfg	1 922	23 007 668	22.4	30.7	45.1	61.8	198.9
33621	Motor vehicle body & trailer mfg	1 922	23 007 668	22.4	30.7	45.1	61.8	198.9
336211	Motor vehicle body mfg	747	9 008 512	34.4	43.9	59.4	74.9	694.7
336212	Truck trailer mfg	355	5 504 115	41.7	54.1	71.5	85.6	578.3
336213	Motor home mfg	75	3 894 350	52.2	75.4	94.5	99.7	980.2
336214	Travel trailer & camper mfg	761	4 600 691	26.0	35.3	49.8	67.1	262.2
3363	Motor vehicle parts mfg	4 767	178 511 569	41.6	49.3	61.0	70.7	658.8
33631	Motor vehicle gasoline engine & engine parts mfg	924	28 518 227	64.4	72.6	82.3	91.2	1 293.8
336311	Carburetor, piston, piston ring, & valve mfg	122	2 731 573	60.2	77.8	92.5	98.5	1 558.5
336312	Gasoline engine & engine parts mfg	810	25 786 654	67.5	75.5	84.8	92.8	1 425.1
33632	Motor vehicle electrical & electronic equipment mfg	981	21 633 391	51.8	61.0	73.3	85.7	1 419.9
336321 336322	Venicular lighting equipment mfg Other motor vehicle electrical & electronic equipment mfg	99 890	3 336 152 18 297 239	58.3 53.4	76.5 64.2	92.7 75.9	99.1 87.1	1 164.4 1 615.3
33633	Motor vehicle steering & suspension component	183	10 632 673	60.1	72.3	85.6	97.1	1 415.6
336330	(except spring) mfg	183	10 632 673	60.1	72.3	85.6	97.1	1 415.6
33634	(except spring) mfg Motor vehicle brake system mfg	203	10 981 044	59.2	77.2	89.2	96.5	1 101.0
336340	Motor vehicle brake system mfg	203	10 981 044	59.2	77.2	89.2	96.5	1 101.0
33635	Motor vehicle transmission & power train parts mfg.	427	30 105 923	60.0	79.1	90.9	96.2	1 056.6
336350	Motor vehicle transmission & power train parts mfg	427	30 105 923	60.0	79.1	90.9	96.2	1 056.6
33636	Motor vehicle seating & interior trim mfg	280	11 869 070	62.2	74.6	87.2	96.5	1 449.2
336360	Motor vehicle seating & interior trim mfg	280	11 869 070	62.2	74.6	87.2	96.5	1 449.2
33637	Motor vehicle metal stamping	662	23 633 912	45.1	50.7	59.1	71.0	693.4
336370	Motor vehicle metal stamping	662	23 633 912	45.1	50.7	59.1	71.0	693.4
33639	Other motor vehicle parts mfg	1 321	41 137 329	31.7	41.4	56.7	71.7	364.0
336391	Motor vehicle air-conditioning mfg	58	5 626 596	76.1	89.0	98.7	99.9	2 227.1
336399	All other motor vehicle parts mfg	1 271	35 510 733	27.2	38.3	54.8	70.6	266.4
3364 33641 336411 336412 336413 336414 226415	Aerospace product & parts mfg . Aerospace product & parts mfg . Aircraft mg . Aircraft mg . Other aircraft part & auxiliary equipment mfg Guided missile & space vehicle mfg Guided missile & pace vehicle mfg	1 530 1 530 172 281 1 049 15	120 438 212 120 438 212 57 893 242 22 859 270 19 373 554 16 247 363	62.3 62.3 84.8 77.2 53.3 89.2	78.1 78.1 96.0 82.3 66.6 99.7	88.0 88.0 98.7 88.6 75.5 100.0	92.8 92.8 99.7 94.7 84.1 N	1 636.9 1 636.9 2 057.5 1 038.3 D
336415 336419	Guided missile & space vehicle propulsion unit & parts mfg Other guided missile & space vehicle parts &	19	3 101 378	78.5	97.5	100.0	N	1 978.2
3365	auxiliary equip mfg	48	963 405	73.0	85.4	97.0	100.0	2 341.2
	Railroad rolling stock mfg	173	8 263 395	57.2	71.9	87.9	96.2	1 029.3
33651 336510 3366	Railroad rolling stock mfg . Railroad rolling stock mfg . Railroad rolling stock mfg . Ship & boat building .	173 173 1 630	8 263 395 8 263 395 16 150 259	57.2 57.2 38.4	71.9 71.9 50.7	87.9 87.9 63.3	96.2 96.2 74.4	1 029.3 1 029.3 449.5
33661	Ship & boat building.	1 630	16 150 259	38.4	50.7	63.3	74.4	449.5
336611	Ship building & repairing	649	10 542 961	52.6	64.5	76.5	86.5	872.7
336612	Boat building	984	5 607 298	41.4	48.9	61.0	75.4	644.5

See footnotes at end of table.

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NACIS	Industry group and industry				Percent of value accounted fo			Herfindahl- Herschmann
code	indusity group and indusity	Companies ¹	Value of shipments ² (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
336	Transportation equipment mfg-Con.							
3369 33699 336991 336992	Other transportation equipment mfg Other transportation equipment mfg Motorcycle, bicycle, & parts mfg Military armored vehicle, tank, & tank component	758 758 373	8 883 036 8 883 036 3 382 689	37.9 37.9 67.5	55.7 55.7 76.7	77.3 77.3 85.9	86.0 86.0 92.3	563.3 563.3 2 036.5
336999	MfgAll other transportation equipment mfg	37 349	1 063 668 4 436 679	85.0 50.7	92.4 75.3	99.0 83.0	100.0 90.6	D 885.2
337	Furniture & related product mfg	19 838	64 299 098	11.2	17.6	27.5	37.2	55.5
3371	Household & institutional furniture & kitchen cabinet	44 700	00,440,007	10.0	10.5		40.0	70.0
33711 337110	mfg Wood kitchen cabinet & counter top mfg Wood kitchen cabinet & counter top mfg	14 732 7 872 7 872	36 418 307 9 029 834 9 029 834	13.8 18.2 18.2	19.5 25.7 25.7	28.8 36.5 36.5	40.0 45.0 45.0	73.3 133.1 133.1
33712 337121 337122 337124 337125 337125 337127 337129	Household & institutional furniture mfg Upholstered household furniture mfg Nonupholstered wood household furniture mfg Hetal household furniture mfg Household furniture mfg Institutional furniture mfg Wood television, radio, & sewing machine cabinet mfg.	6 867 1 566 3 677 389 211 977 99	27 388 473 8 232 635 11 318 807 2 417 293 547 227 4 554 577 317 934	17.7 31.5 25.7 26.2 45.2 18.8 45.8	24.6 39.1 36.5 41.0 60.1 27.0 63.0	34.7 53.7 50.5 63.4 78.5 41.2 85.6	47.2 68.7 64.3 82.2 91.2 58.7 96.6	117.3 301.0 237.5 288.9 635.0 147.3 752.0
3372 33721 337211 337212 337212 337214 337215	Office furniture (including fixtures) mfg Office furniture (including fixtures) mfg Wood office furniture mfg Custom architectural woodwork & millwork mfg Office furniture (except wood) mfg Showcase, partition, shelving, & locker mfg	4 086 4 086 639 1 094 303 2 073	21 517 554 21 517 554 3 021 800 2 205 019 8 341 389 7 949 346	28.7 28.7 34.9 7.8 64.7 9.9	35.9 35.9 42.2 11.7 78.7 15.5	42.8 42.8 54.8 19.9 87.0 26.2	51.4 51.4 70.0 34.5 93.7 41.1	252.5 252.5 399.4 34.4 1 272.2 53.7
3379 33791 337910	Other furniture related product mfg Mattress mfg Mattress mfg	1 071 628 628	6 363 237 3 936 972 3 936 972	34.4 38.6 38.6	44.5 44.8 44.8	55.5 55.3 55.3	66.8 68.3 68.3	355.6 561.0 561.0
33792 337920	Blind & shade mfg Blind & shade mfg	443 443	2 426 265 2 426 265	54.1 54.1	65.9 65.9	76.0 76.0	86.7 86.7	979.5 979.5
339	Miscellaneous mfg	30 335	99 729 798	7.4	11.4	19.4	30.2	33.2
3391 33911 339111 339112 339113 339114 339115 339116	Medical equipment & supplies mfg Medical equipment & supplies mfg Laboratory apparatus & furniture mfg Surgical & medical instrument mfg Dental equipment & supplies mfg Ophthalmic goods mfg Dental laboratories	12 123 12 123 371 1 456 1 511 849 520 7 490	44 893 840 44 893 840 2 220 507 18 292 919 15 233 098 2 666 147 3 497 595 2 983 574	16.3 16.3 19.0 31.4 17.0 34.5 43.3 5.1	24.0 24.0 33.3 44.0 29.3 46.1 59.0 6.6	37.4 37.4 55.1 61.6 51.3 64.7 78.3 9.2	54.4 54.4 74.4 76.7 68.9 78.8 88.2 13.9	137.5 137.5 202.5 366.8 166.8 400.0 645.2 8.8
3399 33991 339911 339912 339913 339913 339914	Other miscellaneous mfg Jewelry & silverware mfg Jewelry (except costume) mfg Silverware & plated ware mfg Jewelers' material & lapidary work mfg Costume jewelry & novelty mfg	18 232 3 737 2 278 158 391 917	54 835 958 8 303 714 5 320 508 892 378 802 515 1 288 313	5.7 11.1 12.5 68.4 27.3 25.2	10.0 17.0 19.6 77.0 41.9 41.2	17.8 28.7 34.2 88.2 62.5 55.3	27.1 45.1 50.2 95.9 79.3 69.0	21.2 65.2 81.4 2 134.3 296.8 256.3
33992 339920	Sporting & athletic goods mfg Sporting & athletic goods mfg	2 477 2 477	10 633 528 10 633 528	21.4 21.4	29.2 29.2	43.6 43.6	59.7 59.7	161.1 161.1
33993 339931 339932	Doll, toy, & game mfg Doll & stuffed toy mfg Game, toy, & children's vehicle mfg	995 239 756	4 763 522 300 678 4 462 844	40.0 31.1 42.7	49.8 51.1 53.1	61.9 72.2 66.0	76.2 89.6 80.1	495.9 403.9 564.0
33994 339941 339942 339943 339944	Office supplies (except paper) mfg Pen & mechanical pencil mfg Lead pencil & art good mfg Marking device mfg Carbon paper & inked ribbon mfg	999 106 171 617 106	4 329 053 1 538 812 1 278 701 661 173 850 367	31.2 65.4 52.4 25.5 40.3	41.4 77.7 65.6 37.8 58.6	56.9 89.6 83.7 53.6 81.8	74.3 98.0 94.6 68.0 95.1	342.3 1 374.8 1 047.9 233.6 572.6
33995 339950	Sign mfg	5 580 5 580	7 997 974 7 997 974	7.9 7.9	12.2 12.2	19.5 19.5	30.9 30.9	34.5 34.5
33999 339991 339992 339993 339994 339995 339999	All other miscellaneous mfg Gasket, packing, & sealing device mfg Musical instrument mfg Fastener, button, needle, & pin mfg Broom, brush, & mop mfg Burial casket mfg All other miscellaneous mfg	4 475 561 552 240 306 161 2 660	18 808 167 5 243 005 1 324 529 838 928 2 083 585 1 219 943 8 098 177	9.5 23.5 32.6 46.3 25.9 74.2 15.1	16.3 35.7 45.5 56.2 38.2 80.2 23.3	27.5 54.7 68.1 70.8 60.5 88.4 37.8	42.6 72.2 83.3 88.6 79.7 95.4 51.4	54.9 223.5 420.8 952.2 286.2 2 964.6 100.5

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control. ²For most industries, data are value of shipments. For industries 311411, 311412, 311421, 311422, 311711, 311712, 311941, 311999, 312140, 312210, 312221, and 312229, value of production is shown. For industry 336611, value of work done is shown. ³The Herfindahl-Herschmann index is calculated by summing the squares of the individual company percentages for the 50 largest companies or the universe, whichever is lower.

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

NACIS	g of abbreviations and symbols, see introductory text. For ex	<u> </u>			Percent of va accounted fo			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
311	Food mfg	21 958	163 675 301	10.9	20.0	37.4	53.4	87.0
3111 31111 311111 311111 311119	Animal food mfg Animal food mfg Dog & cat food mfg Other animal food mfg	1 077 1 077 129 962	8 779 741 8 779 741 4 307 078 4 472 663	32.7 32.7 63.4 24.6	46.3 46.3 83.2 35.1	63.0 63.0 94.3 51.2	77.1 77.1 98.9 67.6	415.9 415.9 1 447.3 233.0
3112 31121 311211 311212 311212 311213	Grain & oilseed milling Flour milling & malt mfg. Flour milling Rice milling Malt mfg.	534 324 254 56 19	15 867 943 2 689 069 1 894 615 587 737 206 717	48.7 32.1 42.3 57.1 66.5	64.2 51.2 59.8 72.4 95.1	80.2 69.4 78.5 90.4 100.0	90.6 87.5 92.6 99.9 N	776.1 414.1 591.6 1 384.7 1 394.4
31122 311221 311222 311223 311223 311225	Starch & vegetable fats & oils mfg Wet corn milling Soybean processing Other oilseed processing Fats & oils refining & blending	179 30 43 32 91	6 622 646 3 071 056 1 623 082 246 561 1 681 947	53.3 73.7 73.4 72.7 44.4	68.4 91.0 92.2 90.5 64.4	87.8 99.8 99.0 99.9 89.7	97.1 100.0 100.0 100.0 99.0	1 005.6 1 706.9 1 841.8 2 925.2 666.2
31123 311230	Breakfast cereal mfg Breakfast cereal mfg	48 48	6 556 228 6 556 228	86.7 86.7	94.7 94.7	99.3 99.3	100.0 100.0	2 773.7 2 773.7
3113 31131 311311 311311 311312 311313	Sugar & confectionery product mfg Sugar mfg Sugarcane mills Cane sugar refining Beet sugar mfg	1 556 49 34 12 8	11 876 056 2 156 119 647 496 540 141 968 482	45.3 54.2 61.8 96.4 82.7	57.6 78.0 78.4 99.9 100.0	75.7 95.2 94.7 100.0 N	86.6 100.0 100.0 N N N	687.1 1 073.1 1 174.9 D 1 931.1
31132 311320	Chocolate & confectionery mfg from cacao beans Chocolate & confectionery mfg from cacao	152	1 821 177	86.6	93.7	98.2	99.3	2 892.4
31133	beans Confectionery mfg from purchased chocolate	152 796	1 821 177 4 815 479	86.6 67.9	93.7 78.4	98.2 86.3	99.3 93.2	2 892.4 1 775.1
311330 31134	Confectionery mfg from purchased chocolate Nonchocolate confectionery mfg	796 578	4 815 479 3 083 281	67.9 44.0	78.4 65.5	86.3 81.3	93.2 92.5	1 775.1 722.9
311340 3114	Nonchocolate confectionery mfg	578 1 394	3 083 281 23 360 633	44.0 31.5	65.5 40.8	81.3 57.1	92.5 73.3	722.9 353.5
3114 31141 311411 311412	Fruit & vegetable preserving & specialty food mfg Frozen food mfg Frozen fruit, juice, & vegetable mfg Frozen specialty food mfg	531 177 363	23 360 633 9 876 210 4 507 930 5 368 280	31.5 34.9 41.2 44.8	40.8 49.7 54.4 59.2	57.1 67.1 74.7 77.0	73.3 82.0 91.6 89.6	353.5 424.7 587.3 613.3
31142 311421 311422 311423	Fruit & vegetable canning, pickling, & drying Fruit & vegetable canning Specialty canning Dried & dehydrated food mfg	887 661 122 125	13 484 423 6 940 605 5 185 647 1 358 171	34.5 25.7 72.8 31.4	45.0 39.9 87.3 53.1	64.5 62.7 97.3 80.1	80.8 79.4 99.6 97.1	540.2 291.0 2 632.7 474.7
3115 31151 311511 311512 311512 311513 311514	Dairy product mfg Dairy product (except frozen) mfg Fluid milk mfg Creamery butter mfg Cheese mfg Dry, condensed, & evaporated dairy product	1 329 948 402 32 399	17 621 758 15 071 625 6 284 684 241 876 4 376 509	25.6 29.5 22.5 56.7 43.4	35.7 38.9 35.3 75.8 55.1	52.7 56.7 52.3 96.9 74.1	69.5 72.0 73.3 100.0 86.8	241.2 301.5 219.5 1 264.8 921.4
31152	mfg Ice cream & frozen dessert mfg	169 409	4 168 556 2 550 133	68.8 39.2	77.5 54.4	86.7 75.1	95.9 89.6	2 083.1 657.4
311520	Ice cream & frozen dessert mfg	409	2 550 133	39.2	54.4	75.1	89.6	657.4
3116 31161 311611 311612 311613 311613 311615	Meat product mfg . Animal slaughtering & processing Animal (except poultry) slaughtering . Meat processed from carcasses . Rendering & meat byproduct processing . Poultry processing .	2 794 2 794 1 307 1 163 137 257	30 172 670 30 172 670 8 589 698 8 242 526 1 254 647 12 085 799	26.9 26.9 42.5 23.5 40.2 45.0	41.2 41.2 65.8 33.6 60.8 56.8	56.7 56.7 78.3 48.4 80.1 73.6	68.9 68.9 87.3 63.9 93.2 91.2	290.7 290.7 639.6 204.2 629.6 877.2
3117 31171 311711 311711 311712	Seafood product preparation & packaging Seafood product preparation & packaging Seafood canning Fresh & frozen seafood processing	731 731 152 586	2 512 047 2 512 047 330 603 2 181 444	12.5 12.5 27.2 13.2	21.7 21.7 45.0 22.9	40.8 40.8 74.6 43.4	63.9 63.9 94.5 67.9	112.1 112.1 373.6 125.7
3118 31181 311811 311812 311812 311813	Bakeries & tortilla mfg Bread & bakery product mfg Retail bakeries Commercial bakeries Frozen cakes, pies, & other pastries mfg	10 437 9 489 6 906 2 401 223	27 160 518 16 631 875 1 227 763 14 036 766 1 367 346	32.0 35.3 2.5 41.2 41.2	43.5 45.4 4.0 53.0 53.2	59.0 60.8 6.9 68.3 69.5	70.9 71.3 11.4 79.5 87.9	346.2 528.3 3.8 724.2 635.6
31182 311821 311822 311823	Cookie, cracker, & pasta mfg Cookie & cracker mfg Flour mixes & dough mfg from purchased flour Dry pasta mfg	767 322 206 249	9 907 805 6 366 872 2 495 635 1 045 298	46.9 64.6 49.6 58.5	59.9 76.6 62.9 75.8	74.4 89.7 79.3 88.0	87.5 96.0 93.9 92.9	772.7 1 609.7 1 292.9 1 524.2
31183 311830	Tortilla mfg	217 217	620 838 620 838	58.4 58.4	65.4 65.4	76.0 76.0	89.6 89.6	1 881.7 1 881.7
3119 31191 311911 311919 311919	Other food mfg Snack food mfg Roasted nuts & peanut butter mfg Other snack food mfg	2 493 466 128 340	26 323 935 7 483 020 1 574 476 5 908 544	40.6 63.0 49.4 72.2	48.7 68.9 69.9 77.7	60.1 80.7 85.9 88.2	70.6 90.5 96.6 94.3	539.1 2 618.9 855.9 D
31192 311920	Coffee & tea mfg	215 215	3 644 653 3 644 653	57.5 57.5	70.0 70.0	87.1 87.1	95.4 95.4	1 187.2 1 187.2
31193 311930	Flavoring syrup & concentrate mfg Flavoring syrup & concentrate mfg	149 149	4 945 331 4 945 331	D	90.7 90.7	95.5 95.5	98.6 98.6	D
31194	Seasoning & dressing mfg	525	5 108 356	34.2	51.2	67.1	82.0	406.8
311941 311942	Mayonnaise, dressing, & other prepared sauce mfg Spice & extract mfg	293 241	2 945 653 2 162 703	43.3 46.8	61.6 55.7	79.6 71.0	93.1 86.4	640.0 854.7
31199 311991 311999	All other food mfg Perishable prepared food mfg All other miscellaneous food mfg	1 197 415 785	5 142 575 1 394 441 3 748 134	19.7 26.3 23.5	29.0 39.1 36.0	44.2 57.2 52.7	60.8 75.2 70.0	160.3 260.3 223.0

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For e				Percent of value of eacounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
312	Beverage & tobacco product mfg	2 237	56 433 891	53.3	66.3	78.7	87.5	1 166.4
3121 31211 312111 312111 312112 312113	Beverage mfg Soft drink & ice mfg Soft drink mfg . Bottled water mfg Ice mfg	2 169 1 008 388 109 514	29 743 502 13 131 224 12 422 141 412 997 296 086	41.9 44.7 47.2 58.9 27.2	54.8 55.6 58.8 71.3 34.4	69.8 70.1 73.1 85.4 47.0	81.0 83.0 86.3 96.5 64.4	673.8 663.4 738.0 1 363.6 391.0
31212 312120	Breweries Breweries	494 494	11 234 126 11 234 126	90.7 90.7	93.9 93.9	95.7 95.7	97.0 97.0	D D
31213 312130	Wineries	637 637	3 161 416 3 161 416	37.8 37.8	52.3 52.3	70.9 70.9	82.1 82.1	565.4 565.4
31214 312140	Distilleries Distilleries	44 44	2 216 736 2 216 736	64.8 64.8	82.5 82.5	98.1 98.1	100.0 100.0	1 335.1 1 335.1
3122 31221 312210	Tobacco mfg Tobacco stemming & redrying Tobacco stemming & redrying	70 13 13	26 690 389 619 176 619 176	87.5 77.0 77.0	95.0 D D	99.4 100.0 100.0	99.9 N N	D 2 332.5 2 332.5
31222 312221 312229	Tobacco product mfg Cigarette mfg Other tobacco product mfg	63 9 56	26 071 213 23 338 692 2 732 521	89.0 98.9 69.4	96.4 D 86.7	99.8 100.0 98.8	99.9 N 99.9	D D 2 381.1
313	Textile mills	3 863	23 696 948	11.2	17.9	30.9	48.4	69.6
3131 31311 313111 313112 313112 313113	Fiber, yarn, & thread mills Fiber, yarn, & thread mills Yarn spinning mills Yarn texturing, throwing, & twisting mills Thread mills.	358 358 229 101 44	4 202 226 4 202 226 2 964 156 1 096 088 141 982	25.7 25.7 26.1 57.9 63.1	39.6 39.6 38.9 67.5 80.3	59.8 59.8 61.3 84.4 95.3	79.8 79.8 85.8 97.3 100.0	280.2 280.2 280.1 1 478.0 1 213.6
3132 31321 313210	Fabric mills Broadwoven fabric mills Broadwoven fabric mills	1 796 734 734	12 598 396 7 505 926 7 505 926	12.8 19.7 19.7	21.3 32.5 32.5	37.6 54.4 54.4	57.1 78.6 78.6	97.5 208.6 208.6
31322 313221 313222	Narrow fabric mills & schiffli machine embroidery Narrow fabric mills	478 243 235	949 913 786 758 163 155	16.7 20.2 28.0	26.9 32.5 45.2	47.9 57.4 66.7	74.3 84.3 84.7	164.5 229.7 338.0
31323 313230	Nonwoven fabric mills Nonwoven fabric mills	212 212	1 751 967 1 751 967	32.9 32.9	47.3 47.3	70.2 70.2	87.1 87.1	465.1 465.1
31324 313241 313249	Knit fabric mills Weft knit fabric mills Other knit fabric & lace mills	407 236 181	2 390 590 1 150 044 1 240 546	24.8 24.8 38.5	35.0 34.3 52.8	50.7 52.5 71.2	68.7 75.5 87.8	248.5 296.5 624.8
3133 31331 313311 313311 313312	Textile & fabric finishing & fabric coating mills Textile & fabric finishing mills Broadwoven fabric finishing mills Textile & fabric finishing mills	1 827 1 589 1 255 346	6 896 326 6 006 310 4 032 378 1 973 932	13.4 15.4 19.7 29.2	21.8 24.9 31.6 39.8	36.1 40.9 47.2 57.8	51.4 56.7 61.5 77.5	93.3 119.3 179.4 303.6
31332 313320	Fabric coating mills Fabric coating mills	246 246	890 016 890 016	17.2 17.2	29.3 29.3	50.4 50.4	75.2 75.2	173.2 173.2
314	Textile product mills	7 516	13 613 111	20.3	28.3	41.3	52.9	145.9
3141 31411 314110	Textile furnishings mills Carpet & rug mills Carpet & rug mills	3 080 413 413	8 588 430 4 513 421 4 513 421	31.6 47.9 47.9	44.3 63.0 63.0	61.4 80.6 80.6	75.0 92.6 92.6	338.8 825.1 825.1
31412 314121 314129	Curtain & linen mills Curtain & drapery mills Other household textile product mills	2 670 2 012 668	4 075 009 943 162 3 131 847	38.7 27.2 50.0	48.5 35.9 59.3	60.5 49.7 71.5	72.3 63.7 82.5	472.1 388.7 747.1
3149 31491 314911 314912	Other textile product mills Textile bag & canvas mills Textile bag mills Canvas & related product mills	4 455 2 094 423 1 673	5 024 681 1 307 070 497 914 809 156	9.3 8.7 21.7 10.5	14.8 14.8 31.4 16.5	23.3 25.1 50.4 26.9	36.1 39.9 70.5 42.1	42.9 46.1 196.9 54.5
31499 314991 314992 314999	All other textile product mills	2 366 189 15 2 164	3 717 611 377 878 414 831 2 924 902	12.5 34.1 66.9 14.9	20.0 49.8 92.2 21.1	31.1 70.3 100.0 31.2	46.9 88.7 N 46.6	76.0 420.5 1 498.4 89.5
315	Apparel mfg	15 839	33 780 193	17.8	23.2	29.9	39.3	104.4
3151 31511 315111 315111 315119	Apparel kniiting mills . Hosiery & sock mills . Sheer hosiery mills . Other hosiery & sock mills .	1 209 532 136 399	4 630 556 2 196 914 797 444 1 399 470	22.7 31.1 50.4 30.8	33.4 42.5 64.1 43.7	49.7 59.6 88.2 66.2	66.3 80.4 97.3 82.9	221.9 343.3 928.8 347.2
31519 315191 315192	Other apparel knitting mills	683 645 43	2 433 642 2 054 507 379 135	34.4 38.6 73.1	47.7 49.0 86.5	61.4 61.8 98.9	74.0 73.1 100.0	509.4 647.4 1 967.2
3152 31521 315211 315212	Cut & sew apparel mfg Cut & sew apparel contractors Men's & boys' cut & sew apparel contractors Women's, girls', & infants' cut & sew apparel contractors	12 487 7 677 636 7 056	26 800 066 4 439 438 1 241 538 3 197 900	21.2 8.2 22.1 6.5	26.6 11.9 30.2 9.9	33.9 18.4 43.8 16.0	43.3 26.8 60.2 23.4	146.9 27.3 183.8 20.4
31522	Men's & boys' cut & sew apparel mfg	1 362	10 513 890	40.0	47.5	59.6	71.7	495.2
315221 315222	Men's & boys' cut & sew underwear & nightwear mfg Men's & boys' cut & sew suit, coat, & overcoat	62	815 424	74.0	86.8	96.5	99.9	1 918.1
315223	mfg Men's & boys' cut & sew shirt (exc work shirt)	193	1 110 598	45.1	56.9	75.9	91.6	1 103.6
315224	mfg Men's & boys' cut & sew trouser, slack, & jean mfg	387 199	3 306 989 3 392 475	44.8 70.1	57.4 76.5	73.4 86.5	85.9 94.6	851.8 2 376.1
315225 315228	Men's & boys' cut & sew work clothing mfg Men's & boys' cut & sew other outerwear mfg	149 149 430	999 393	70.1 55.0 24.3	76.5 66.6 34.8	86.5 83.0 52.8	94.6 95.3 72.8	2 376.1 1 048.4 232.6
Se	e footnotes at end of table.							

See footnotes at end of table.

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

NACIS	g of addreviations and symbols, see introductory text. For ex	planation of terms				Herfindahl- Herschmann		
code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
315	Apparel mfg-Con.							
3152 31523 315231	Cut & sew apparel mfg-Con. Women's & girls' cut & sew apparel mfg Women's & girls' cut/sew lingerie & nightwear	2 927	10 670 675	14.7	21.7	33.2	46.4	90.9
315232 315233 315234 315239	mfg Women's & girls' cut & sew blouse & shirt mfg Women's & girls' cut & sew dress mfg Women's & girls' cut & sew suit, coat, skirt mfg Women's & girls' cut & sew other outerwear mfg .	249 714 747 428 818	1 705 803 1 667 037 2 011 924 1 656 257 3 629 654	49.3 15.7 13.3 32.9 24.5	61.4 25.5 22.9 45.3 37.4	75.4 44.8 38.8 61.3 55.8	89.8 66.3 58.9 77.8 74.2	716.0 139.5 105.9 381.9 244.2
31529 315291 315292 315299	Other cut & sew apparel mfg Infants' cut & sew apparel mfg Fur & leather apparel mfg All other cut & sew apparel mfg	665 39 224 402	1 176 063 487 099 115 965 572 999	30.0 68.1 25.0 23.2	40.0 82.2 38.2 38.5	56.7 97.8 56.1 56.7	73.6 100.0 75.4 75.0	361.3 1 771.3 256.7 241.6
3159 31599 315991 315992 315993 315993 315999	Apparel accessories & other apparel mfg Apparel accessories & other apparel mfg Hat, cap, & millinery mfg Glove & mitten mfg Men's & boys' neckwear mfg Other apparel accessories & other apparel mfg	2 201 2 201 363 98 119 1 626	2 349 571 2 349 571 570 346 337 930 330 533 1 110 762	16.0 16.0 36.5 66.9 46.4 17.3	24.4 24.4 46.5 74.8 60.0 26.2	38.6 38.6 60.2 86.5 78.2 40.3	52.3 52.3 77.5 97.2 93.8 54.9	118.2 118.2 426.0 2 195.6 685.0 131.8
316	Leather & allied product mfg	1 727	5 407 999	21.8	33.2	48.9	65.8	186.9
3161 31611 316110	Leather & hide tanning & finishing Leather & hide tanning & finishing Leather & hide tanning & finishing	327 327 327	1 372 896 1 372 896 1 372 896	51.9 51.9 51.9	66.4 66.4 66.4	79.4 79.4 79.4	91.3 91.3 91.3	921.3 921.3 921.3
3162 31621 316211 316212 316213 316214 316219	Footwear mfg Footwear mfg Rubber & plastics footwear mfg House slipper mfg Men's footwear (except athletic) mfg Women's footwear (except athletic) mfg Other footwear mfg	366 366 50 22 123 97 87	2 219 507 2 219 507 519 953 147 572 1 065 698 373 803 112 481	31.4 31.4 57.0 81.8 55.0 51.5 29.6	45.8 45.8 73.3 96.4 72.0 68.1 50.5	67.5 67.5 93.6 D 90.9 89.1 80.0	85.6 85.6 100.0 100.0 99.0 98.7 96.6	383.9 383.9 1 158.7 1 959.2 1 117.7 924.4 424.8
3169 31699 316991 316992 316993	Other leather & allied product mfg Other leather & allied product mfg Luggage mfg Women's handbag & purse mfg Personal leather good (except women's handbag	1 045 1 045 270 136	1 815 596 1 815 596 858 991 162 276	29.2 29.2 55.3 61.0	38.4 38.4 65.2 73.9	52.9 52.9 76.5 87.9	68.9 68.9 87.6 96.6	439.8 439.8 1 704.2 1 641.4
316999	& purse) mfg All other leather good mfg	178 464	279 219 515 110	45.4 28.8	58.5 42.6	80.4 65.1	93.3 80.7	946.9 323.2
321	Wood product mfg	15 621	33 493 004	10.2	16.0	25.1	35.8	47.8
3211 32111 321113 321113 321114	Sawmills & wood preservation Sawmills & wood preservation Sawmills Wood preservation	4 372 4 372 4 024 361	9 481 550 9 481 550 8 521 097 960 453	14.2 14.2 15.7 16.3	19.9 19.9 21.9 26.6	29.2 29.2 32.2 48.4	40.9 40.9 44.0 70.8	79.5 79.5 95.8 157.7
3212 32121 321211 321212 321212 321213 321214 321219	Veneer, plywood, & engineered wood product mfg Veneer, plywood, & engineered wood product mfg . Hardwood veneer & plywood mfg Softwood veneer & plywood mfg Engineered wood member (except truss) mfg Truss mfg Reconstituted wood product mfg	1 491 1 491 303 88 32 886 212	7 208 798 7 208 798 1 121 661 1 713 341 476 346 1 584 826 2 312 624	26.2 26.2 26.5 50.2 79.1 8.2 44.8	38.1 38.1 35.3 68.6 86.8 12.1 62.4	51.2 51.2 50.8 87.9 96.5 22.2 77.6	61.8 61.8 72.6 98.7 100.0 38.3 91.8	260.2 260.2 326.6 1 034.3 D 40.0 669.9
3219 32191 321911 321912 321912 321918	Other wood product mfg Millwork Wood window & door mfg Cut stock, resawing lumber, & planing Other millwork (including flooring)	9 923 3 985 1 311 1 296 1 416	16 802 656 7 463 664 3 687 713 1 940 712 1 835 239	12.5 16.5 32.7 11.8 16.9	18.7 23.7 43.9 16.7 22.7	28.8 33.7 56.7 27.5 34.2	38.9 44.1 68.9 44.1 49.4	66.1 96.8 334.0 69.1 119.6
32192 321920	Wood container & pallet mfg Wood container & pallet mfg	2 870 2 870	1 999 828 1 999 828	4.8 4.8	7.6 7.6	13.4 13.4	22.0 22.0	13.5 13.5
32199 321991 321992 321999	All other wood product mfg Manufactured home (mobile home) mfg Prefabricated wood building mfg All other miscellaneous wood product mfg	3 103 145 652 2 309	7 339 164 4 009 319 1 274 863 2 054 982	25.9 45.4 13.8 21.6	36.1 62.1 21.6 26.6	48.9 82.0 36.1 34.6	59.8 92.8 57.8 46.0	250.6 774.7 99.1 233.0
322	Paper mfg	3 808	70 300 235	21.9	33.4	52.3	67.7	196.6
3221 32211 322110	Pulp, paper, & paperboard mills Pulp mills Pulp mills	217 24 24	35 230 199 1 507 468 1 507 468	31.5 61.2 61.2	48.8 88.5 88.5	72.4 99.7 99.7	90.2 100.0 100.0	392.2 1 230.9 1 230.9
32212 322121 322122	Paper mills Paper (except newsprint) mills Newsprint mills	139 121 24	24 681 603 22 128 898 2 552 705	39.0 43.5 43.9	57.7 62.7 66.9	81.0 85.2 D	94.7 96.7 100.0	537.3 631.6 759.1
32213 322130	Paperboard mills Paperboard mills	81 81	9 041 128 9 041 128	35.5 35.5	54.3 54.3	82.6 82.6	98.1 98.1	522.3 522.3
3222 32221 322211 322212 322213 322213 322214 322215	Converted paper product mfg Paperboard container mfg Corrugated & solid fiber box mfg Folding paperboard box mfg Setup paperboard box mfg Fiber can, tube, drum, & similar products mfg Nonfolding sanitary food container mfg	3 674 1 705 995 434 142 138 46	35 070 036 16 169 581 9 627 993 4 118 767 299 516 952 629 1 170 676	15.4 17.1 23.5 20.9 17.0 64.3 66.3	24.8 28.6 37.5 32.2 27.5 73.0 83.1	40.1 46.0 54.6 51.7 46.8 83.8 98.3	54.2 61.1 67.4 69.8 76.0 93.3 100.0	110.0 144.9 231.9 193.0 165.1 2 188.9 1 342.3
32222 322221	Paper bag & coated & treated paper mfg Coated & laminated packaging paper & plastics	764	8 708 660	33.6	41.0	53.3	69.7	445.4
322222 322223 322224 322225	film mfg	73 509 40 93	541 684 5 843 950 240 445 1 124 247	37.2 47.3 43.4 53.9	55.5 53.9 67.5 69.2	84.4 65.4 95.1 87.1	99.2 80.8 100.0 97.7	535.7 918.5 724.6 1 007.1
322226	packaging uses	34 42	603 535 354 799	57.6 57.0	78.2 73.0	94.9 94.9	100.0 100.0	1 047.7 1 122.9

See footnotes at end of table.

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

NACIS	Industry group and industry				Percent of v accounted f			Herfindahl- Herschmann
code	muusiiy group and muusiiy	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
322	Paper mfg-Con.							
3222 32223 322231 322232 322232 322233	Converted paper product mfg—Con. Stationery product mfg Die-cut paper & paperboard office supplies mfg Envelope mfg Stationery, tablet, & related product mfg	674 337 188 158	3 736 501 992 306 1 744 897 999 298	28.8 44.1 38.9 59.5	42.7 56.8 55.0 74.0	60.2 70.6 70.7 89.3	75.8 82.6 87.1 96.9	311.3 655.2 540.0 1 309.9
32229	Other converted paper product mfg	623	6 455 294	50.5	60.4	73.9	83.2	980.4
322291	Sanitary paper product mfg	99	4 463 242	72.0	83.2	94.2	99.2	1 990.0
322299	All other converted paper product mfg	529	1 992 052	30.2	38.2	49.0	63.8	291.0
323	Printing & related support activities	40 987	58 392 618	9.0	13.6	20.8	27.5	35.1
3231 32311 323110 323111 323112 323113 323114 323114 323115 323116 323117 323118 323119	Printing & related support activities Printing Commercial lithographic printing Commercial gravure printing Commercial screen printing Quick printing Digital printing Manifold business form printing Blankbook, looseleaf binder, & device mfg Other commercial printing .	40 987 36 617 18 015 419 864 4 096 7 990 386 719 690 283 3 387	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9.0 9.8 10.3 55.7 15.2 7.1 9.8 10.3 37.8 32.3 43.1 13.6	13.6 14.6 15.3 67.2 23.7 12.2 12.3 17.4 53.5 45.2 55.4 19.1	20.8 22.5 22.2 82.4 39.3 20.9 15.9 33.1 67.5 58.9 68.1 28.3	27.5 29.5 29.2 93.6 54.3 32.3 21.3 54.7 79.5 73.2 80.9 39.0	35.1 41.0 41.8 1 308.6 111.2 30.5 30.9 79.6 518.1 367.3 678.6 77.4
32312	Support activities for printing	4 448	5 476 102	6.6	11.5	19.8	29.7	26.3
323121	Tradebinding & related work	1 260	1 487 276	12.1	16.9	25.7	38.9	58.5
323122	Prepress services	3 191	3 988 826	9.0	15.2	24.6	36.6	43.0
324	Petroleum & coal products mfg	1 166	37 610 773	34.1	48.4	71.1	85.1	438.9
3241	Petroleum & coal products mfg	1 166	37 610 773	34.1	48.4	71.1	85.1	438.9
32411	Petroleum refineries	122	30 878 456	41.1	57.4	84.1	97.7	625.2
324110	Petroleum refineries	122	30 878 456	41.1	57.4	84.1	97.7	625.2
32412	Asphalt paving, roofing, & saturated materials mfg .	674	4 007 042	25.7	36.1	50.2	66.4	250.8
324121	Asphalt paving mixture & block mfg	531	1 974 057	16.9	25.2	39.2	56.6	132.3
324122	Asphalt shingle & coating materials mfg	151	2 032 985	49.9	64.4	83.9	95.8	850.7
32419	Other petroleum & coal products mfg	403	2 725 275	23.5	34.5	56.2	77.4	255.3
324191	Petroleum lubricating oil & grease mfg	344	2 068 913	30.6	42.3	63.5	81.1	371.7
324199	All other petroleum & coal products mfg	61	656 362	41.3	65.3	90.7	99.8	685.3
325	Chemical mfg	9 626	224 684 500	13.8	21.3	36.0	54.6	94.7
3251	Basic chemical mfg	1 203	53 736 421	17.8	30.2	49.2	70.1	168.3
32511	Petrochemical mfg	42	8 359 545	71.5	88.0	98.1	100.0	1 969.5
325110	Petrochemical mfg	42	8 359 545	71.5	88.0	98.1	100.0	1 969.5
32512	Industrial gas mfg	119	3 485 572	67.5	85.1	95.6	98.8	1 312.7
325120	Industrial gas mfg	119	3 485 572	67.5	85.1	95.6	98.8	1 312.7
32513	Dye & pigment mfg	152	3 361 633	46.8	58.4	79.5	94.9	986.5
325131	Inorganic dye & pigment mfg	59	2 030 987	68.1	80.5	95.4	99.9	2 381.6
325132	Synthetic organic dye & pigment mfg	95	1 330 646	43.6	64.0	87.1	98.3	742.8
32518	Other basic inorganic chemical mfg	409	12 729 040	36.9	46.9	66.8	84.5	517.1
325181	Alkalies & chlorine mfg	26	1 421 798	81.2	93.5	99.8	100.0	2 558.5
325182	Carbon black mfg	8	547 537	D	100.0	N	N	2 271.5
325188	All other basic inorganic chemical mfg	385	10 759 705	39.3	49.8	69.1	85.9	654.0
32519 325191 325192 325193 325193 325199	Other basic organic chemical mfg Gum & wood chemical mfg Cyclic crude & intermediate mfg Ethyl alcohol mfg All other basic organic chemical mfg	581 45 36 31 487	25 800 631 469 629 2 807 384 226 520 22 297 098	20.2 77.2 61.6 61.6 22.5	33.3 93.0 79.2 87.3 34.8	54.4 98.6 97.8 99.9 55.6	77.2 100.0 100.0 100.0 78.9	212.5 2 216.3 1 422.7 1 410.0 237.1
3252 32521 325211 325212	Resin, syn rubber, & artificial & syn fibers & filaments mfg Resin & synthetic rubber mfg Plastics material & resin mfg Synthetic rubber mfg	469 406 299 122	27 307 501 20 399 243 17 625 910 2 773 333	31.5 28.5 29.2 45.5	45.4 42.6 43.3 67.7	65.1 63.2 65.6 94.2	86.1 86.2 87.9 99.0	458.0 319.7 332.9 725.4
32522	Artificial & synthetic fibers & filaments mfg	70	6 908 258	76.8	88.1	97.4	99.9	2 144.6
325221	Cellulosic organic fiber mfg	4	603 753	100.0	N	N	N	D
325222	Noncellulosic organic fiber mfg	67	6 304 505	77.4	89.8	98.0	99.9	2 386.7
3253 32531 325311 325312 325312 325314	Pesticide, fertilizer, & other agricultural chemical mfg . Fertilizer mfg . Nitrogenous fertilizer mfg Phosphatic fertilizer mfg Fertilizer (mixing only) mfg	692 477 116 43 334	12 576 259 4 900 041 1 814 299 2 062 571 1 023 171	33.0 37.2 57.1 67.4 34.1	52.9 57.3 76.6 87.5 44.4	76.8 78.2 93.8 99.1 60.3	89.4 89.4 98.4 100.0 77.4	437.3 538.1 997.1 1 380.3 428.1
32532	Pesticide & other agricultural chemical mfg	222	7 676 218	54.0	77.3	91.7	96.9	939.4
325320	Pesticide & other agricultural chemical mfg	222	7 676 218	54.0	77.3	91.7	96.9	939.4
3254 32541 325411 325412 325413 325413 325414	Pharmaceutical & medicine mfg Pharmaceutical & medicine mfg Medicinal & botanical mfg Pharmaceutical preparation mfg In-vitro diagnostic substance mfg Biological product (except diagnostic) mfg	1 428 1 428 312 707 203 267	64 108 002 64 108 002 6 297 660 47 864 824 6 253 818 3 691 700	32.9 32.9 65.2 37.1 63.5 46.4	49.5 49.5 76.1 52.7 76.5 65.9	69.7 69.7 87.5 74.1 86.7 85.5	84.7 84.7 94.3 90.2 94.7 94.3	441.5 441.5 1 962.3 489.1 1 823.3 771.4
3255	Paint, coating, & adhesive mfg	1 724	12 618 013	24.5	36.7	54.7	68.5	233.9
32551	Paint & coating mfg	1 205	9 234 712	32.8	48.9	66.2	77.3	387.2
325510	Paint & coating mfg	1 205	9 234 712	32.8	48.9	66.2	77.3	387.2
32552	Adhesive mfg	540	3 383 301	23.5	34.2	53.2	74.5	227.6
325520		540	3 383 301	23.5	34.2	53.2	74.5	227.6

See footnotes at end of table.

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

NACIS	g of abbreviations and symbols, see introductory text. For ex				Percent of val accounted for			Herfindahl- Herschmann
code	indusity group and indusity	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
325	Chemical mfg-Con.							
3256	Soap, cleaning compound, & toilet preparation mfg	2 251	34 359 408	35.7	48.9	68.3	79.1	574.4
32561	Soap & cleaning compound mfg	1 583	17 755 669	44.0	60.4	72.7	81.3	728.9
325611	Soap & other detergent mfg	738	10 478 562	68.8	79.6	86.9	91.6	1 744.1
325612	Polish & other sanitation good mfg	675	5 149 717	60.9	66.7	76.2	86.1	1 318.4
325613	Surface active agent mfg	183	2 127 390	42.0	54.1	74.1	91.7	643.1
32562	Toilet preparation mfg	681	16 603 739	41.4 41.4	61.2	78.9	88.8	652.9
325620	Toilet preparation mfg	681	16 603 739		61.2	78.9	88.8	652.9
3259	Other chemical product mfg	2 287	19 978 896	29.7	37.9	49.5	63.8	546.9
32591	Printing ink mfg	255	1 627 402	49.8	58.0	72.2	87.3	851.3
325910	Printing ink mfg	255	1 627 402	49.8	58.0	72.2	87.3	851.3
32592	Explosives mfg	66	789 782	50.9	70.6	92.0	99.8	811.7
325920	Explosives mfg	66	789 782	50.9	70.6	92.0	99.8	811.7
32599 325991 325992 325998	All other chemical product & preparation mfg Custom compounding of purchased resin Photographic film, paper, plate, & chemical mfg All other miscellaneous chemical product & preparation mfg	1 973 728 276 985	17 561 712 3 092 396 7 673 452 6 795 864	33.8 16.0 75.9 21.6	42.6 27.0 86.1 30.8	53.9 47.7 94.0 49.2	68.1 65.7 98.5 65.3	699.4 152.0 D 188.4
326	Plastics & rubber products mfg	13 798	81 349 082	8.0	11.7	18.8	28.6	31.3
3261 32611 326111 326112	Plastics product mfg Unsupported plastics film, sheet, & bag mfg Unsupported plastics bag mfg Unsupported plastics packaging film & sheet	11 613 1 250 440	63 280 786 11 591 673 3 402 530	4.4 15.3 28.2	7.7 25.4 39.3	14.4 42.2 55.0	24.2 59.7 71.8	14.8 120.0 279.2
326113	mfg Unsupported plastics film & sheet (except packaging) mfg	131 713	1 606 103 6 583 040	51.1 21.1	63.7 31.4	77.4 49.6	92.7 69.5	792.0 192.6
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg	1 048	4 066 325	15.4	25.0	39.6	55.3	114.5
326121	Unsupported plastics profile shape mfg	733 317	2 273 968	25.1	34.3	48.2	63.4	228.1
326122	Plastics pipe & pipe fitting mfg		1 792 357	24.8	37.3	54.4	75.5	241.3
32613	Laminated plastics plate, sheet, & shape mfg	438	1 624 612	41.2	53.3	73.1	86.4	639.2
326130	Laminated plastics plate, sheet, & shape mfg	438	1 624 612	41.2	53.3	73.1	86.4	639.2
32614	Polystyrene foam product mfg	379	2 420 515	41.3	50.3	65.2	83.5	668.7
326140	Polystyrene foam product mfg	379	2 420 515	41.3	50.3	65.2	83.5	668.7
32615 326150	Urethane & other foam product (except polystyrene) mfg Urethane & other foam product (except	447	2 822 544	32.0	42.3	60.5	77.4	410.9
32616	polystyrene) mfg	447 245	2 822 544 3 097 170	32.0 32.7	42.3 50.4	60.5 72.9	77.4 88.0	410.9 423.4
326160	Plastics bottle mfg Plastics bottle mfg	245	3 097 170	32.7	50.4	72.9	88.0	423.4
32619	Other plastics product mfg	8 077	37 657 947	5.4	8.5	14.5	24.1	16.3
326191	Plastics plumbing fixture mfg	539	1 239 095	35.9	44.8	58.2	73.8	413.1
326192	Resilient floor covering mfg	28	946 321	88.3	98.8	99.9	100.0	D
326199	All other plastics product mfg	7 522	35 472 531	5.1	8.2	13.7	23.3	15.1
3262	Rubber product mfg	2 271	18 068 296	35.8	45.8	57.0	68.1	445.1
32621	Tire mfg	736	7 917 563	69.4	87.4	94.0	96.9	1 667.5
326211	Tire mfg (except retreading)	110	7 521 527	72.5	91.4	98.2	99.8	1 813.5
326212	Tire retreading.	628	396 036	24.2	34.8	48.0	63.4	223.3
32622	Rubber & plastics hoses & belting mfg	149	2 162 353	50.3	62.8	80.8	95.4	896.1
326220	Rubber & plastics hoses & belting mfg	149	2 162 353	50.3	62.8	80.8	95.4	896.1
32629	Other rubber product mfg	1 408	7 988 380	11.4	19.2	33.3	50.3	76.3
326291	Rubber product mfg for mechanical use	608	3 857 118	20.7	30.0	45.6	67.3	172.4
326299	All other rubber product mfg	827	4 131 262	14.5	24.1	40.0	58.7	112.1
327	Nonmetallic mineral product mfg	11 921	49 425 491	11.2	18.6	30.3	44.5	65.4
3271 32711 327111	Clay product & refractory mfg Pottery, ceramics, & plumbing fixture mfg Vitreous china plumbing fixture & bathroom accessories mfg	1 715 1 204 43	5 915 703 2 813 867 807 165	14.0 23.6 65.9	23.4 35.6 89.2	41.6 54.2 99.1	61.5 72.2 100.0	115.4 232.2 1 545.8
327112	Vitreous china, fine earthenware, & other pottery product mfg	1 034	1 208 102	26.5	37.7	53.7	70.2	266.6
327113	Porcelain electrical supply mfg	131	798 600	35.5	51.3	74.1	93.7	563.7
32712	Clay building material & refractories mfg	519	3 101 836	21.7	34.3	57.1	75.9	224.9
327121	Brick & structural clay tile mfg	127	970 014	42.2	59.8	75.2	92.7	583.8
327122	Ceramic wall & floor tile mfg	157	556 920	61.1	76.5	91.1	97.4	1 555.0
327123	Other structural clay product mfg	48	80 941	47.7	73.6	96.9	100.0	872.6
327124	Clay refractory mfg	115	564 030	42.2	55.4	74.6	92.8	627.0
327125	Nonclay refractory mfg	91	929 931	40.6	60.2	85.3	97.9	593.5
3272 32721 327211 327212 327213 327213 327215	Glass & glass product mfg Glass & glass product mfg Other pressed & blown glass & glassware mfg Glass container mfg Glass product mfg made of purchased glass	1 996 1 996 13 465 11 1 522	14 052 256 14 052 256 1 888 714 4 341 468 2 557 999 5 264 075	33.5 33.5 76.3 47.7 91.1 32.5	48.7 48.7 99.5 69.3 D 45.2	69.8 69.8 100.0 91.3 100.0 65.0	85.6 85.6 N 96.6 N 77.2	407.6 407.6 1 780.5 779.0 2 989.2 479.9
3273	Cement & concrete product mfg	5 930	17 964 132	9.2	15.5	27.2	38.1	48.1
32731	Cement mfg	176	4 022 503	34.5	54.5	81.4	97.3	501.4
327310	Cement mfg	176	4 022 503	34.5	54.5	81.4	97.3	501.4
32732	Ready-mix concrete mfg	2 888	7 780 774	6.2	10.2	18.4	31.6	25.6
327320	Ready-mix concrete mfg	2 888	7 780 774	6.2	10.2	18.4	31.6	25.6
32733	Concrete pipe, brick, & block mfg	955	2 655 107	17.9	24.0	34.1	47.9	114.9
327331	Concrete block & brick mfg	708	1 463 652	12.6	18.2	29.3	44.5	73.7
327332	Concrete pipe mfg	264	1 191 455	28.9	39.6	57.6	76.2	331.4
32739	Other concrete product mfg	2 079	3 505 748	10.4	16.6	27.7	42.9	57.0
327390	Other concrete product mfg	2 079	3 505 748	10.4	16.6	27.7	42.9	57.0

See footnotes at end of table.

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	g of abbreviations and symbols, see introductory text. For ex	cplanation of terms	, see appendixes		Percent of va accounted for			Herfindahl- Herschmann
NACIS code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
327	Nonmetallic mineral product mfg-Con.							
3274 32741 327410	Lime & gypsum product mfg . Lime mfg . Lime mfg .	230 46 46	2 816 807 614 959 614 959	56.8 48.0 48.0	67.5 67.5 67.5	84.2 89.8 89.8	95.7 100.0 100.0	1 077.3 758.5 758.5
32742 327420	Gypsum product mfg Gypsum product mfg	185 185	2 201 848 2 201 848	71.8 71.8	83.3 83.3	94.4 94.4	98.1 98.1	1 704.3 1 704.3
3279 32791 327910	Other nonmetallic mineral product mfg Abrasive product mfg Abrasive product mfg	2 159 319 319	8 676 593 2 918 902 2 918 902	36.5 63.9 63.9	46.0 68.6 68.6	54.2 77.2 77.2	64.4 85.5 85.5	412.2 2 061.1 2 061.1
32799 327991 327992 327993 327993 327999	All other nonmetallic mineral product mfg Cut stone & stone product mfg Ground or treated mineral & earth mfg Mineral wool mfg All other miscellaneous nonmetallic mineral product mfg	1 849 1 004 261 201 404	5 757 691 790 761 1 427 108 2 601 843 937 979	31.8 21.3 31.9 66.8 16.9	40.6 26.4 43.0 77.6 28.4	50.9 36.3 63.6 87.7 46.0	63.8 49.1 82.4 95.9 66.6	341.4 196.4 517.2 1 441.3 151.5
331	Primary metal mfg	4 076	68 749 487	16.4	25.1	36.8	52.2	107.7
3311 33111 331111 331111 331112	Iron & steel mills & ferroalloy mfg Iron & steel mills & ferroalloy mfg Iron & steel mills Electrometallurgical ferroalloy product mfg	209 209 191 19	25 432 010 25 432 010 24 868 550 563 460	38.3 38.3 39.1 62.5	58.6 58.6 59.9 81.2	76.9 76.9 78.6 100.0	92.8 92.8 94.3 N	536.2 536.2 560.3 1 244.1
3312 33121	Steel product mfg from purchased steel Iron & steel pipes & tubes mfg from purchased	503	6 762 383	15.7	24.3	38.7	60.7	115.6
331210	steel Iron & steel pipes & tubes mfg from purchased steel	166 166	2 784 745 2 784 745	19.8 19.8	30.4 30.4	53.2 53.2	82.4 82.4	208.5 208.5
33122 331221 331222	Rolling & drawing of purchased steel Cold-rolled steel shape mfg Steel wire drawing	346 153 199	3 977 638 2 030 226 1 947 412	23.8 46.6 19.4	33.3 60.2 32.6	52.0 80.9 55.2	74.4 96.2 79.4	214.7 646.0 205.8
3313 33131 331311 331312 331312 331314 331315 331316 331319	Alumina & aluminum production & processing Alumina & aluminum production & processing Alumina refining Primary aluminum production Secondary smelting & alloying of aluminum Aluminum sheet, plate, & foil mfg Aluminum extruded product mfg Other aluminum rolling & drawing	248 248 5 13 87 41 105 30	10 063 942 10 063 942 329 432 2 432 972 796 535 3 546 870 2 476 351 481 782	48.6 48.6 D 63.6 32.8 65.8 41.8 56.0	63.1 63.1 100.0 83.9 47.4 84.2 55.9 76.6	77.2 77.2 N 100.0 68.6 97.9 73.3 99.7	87.8 87.8 N 93.1 100.0 91.1 100.0	1 023.3 1 023.3 D 1 313.4 420.4 2 406.8 666.2 1 045.2
3314 33141	Nonferrous metal (except aluminum) production & processing	698	9 598 600	19.4	29.8	48.0	69.5	167.5
331411 331419	refining Primary smelting & refining of copper Other nonferrous metal primary smelting & refining	134 9 127	2 455 517 1 029 440 1 426 077	41.2 91.5 36.8	60.8 D 54.6	84.6 100.0 80.5	97.2 N 96.5	683.7 2 826.8 493.9
33142 331421 331422 331423	Copper rolling, drawing, extruding, & alloying Copper rolling, drawing, & extruding Copper wire (except mechanical) drawing Secondary smelting, refining, & alloying of	154 91 33	2 951 706 2 303 999 324 392	41.0 50.2 53.5	53.8 66.6 75.1	73.8 87.3 97.2	92.2 99.1 100.0	574.5 850.2 948.0
33149	copper	34	323 315	53.0	70.2	91.2	100.0	904.5
331491	& alloying Other nonferrous metal rolling, drawing, & extruding	440 220	4 191 377 2 982 604	25.6 34.8	36.6 49.1	58.0 71.9	77.3 88.5	267.5 443.7
331492	Other nonferrous metal secondary smelting, refining, & alloying	233	1 208 773	29.7	42.9	63.3	83.6	329.1
3315 33151 331511 331512 331512 331513	Foundries	2 521 986 602 145 263	16 892 552 10 449 320 7 043 449 1 656 130 1 749 741	12.8 17.2 24.3 48.0 27.2	21.0 29.6 39.3 62.1 38.4	34.2 47.6 58.1 78.1 61.8	48.3 64.5 74.3 91.3 84.2	83.4 159.5 262.2 811.9 359.5
33152 331521 331522	Nonferrous metal foundries Aluminum die-casting foundries Nonferrous (except aluminum) die-casting	1 559 291	6 443 232 1 967 631	12.2 21.0	18.2 33.3	30.1 53.9	47.1 75.4	70.3 212.1
331524 331525 331528	foundries Aluminum foundries (except die-casting) Copper foundries (except die-casting) Other nonferrous foundries (except die-casting)	267 592 301 136	1 128 064 2 195 343 511 783 640 411	17.9 16.0 13.5 74.9	28.6 26.9 23.2 82.4	50.1 47.0 42.5 90.1	74.5 68.2 67.8 97.1	172.4 152.8 128.6 2 369.4
332	Fabricated metal product mfg	58 516	133 493 077	3.0	5.1	9.8	16.3	6.8
3321 33211 332111 332112 332112 332114 332115 332116 332117	Forging & stamping Forging & stamping Iron & steel forging Nonferrous forging Custom roll forming . Crown & closure mfg Metal stamping Powder metallurgy part mfg	3 026 3 026 390 75 360 55 2 051 114	12 458 562 12 458 562 2 423 265 991 288 1 343 729 430 618 6 471 538 798 124	6.9 6.9 24.3 46.6 25.1 52.5 7.1 31.9	10.7 10.7 34.3 65.0 34.4 77.3 10.1 47.1	18.0 18.0 51.8 88.7 52.1 93.1 16.5 69.5	28.7 28.7 73.4 99.1 70.4 99.9 27.4 91.3	24.4 230.2 910.0 337.3 973.6 23.0 385.1
3322 33221 332211 332212 332213 332213 332214	Cutlery & handtool mfg Cutlery & handtool mfg Cutlery & flatware (except precious) mfg Hand & edge tool mfg Saw blade & handsaw mfg Kitchen utensil, pot, & pan mfg	1 545 1 545 163 1 164 166 69	7 483 422 7 483 422 1 565 685 4 296 327 878 749 742 661	20.9 20.9 69.6 20.8 39.8 61.5	30.8 30.8 79.0 32.3 54.3 81.7	48.3 48.3 90.2 49.3 79.4 94.3	65.3 65.3 97.2 65.9 93.6 99.9	201.1 201.1 2 500.2 183.8 659.4 1 460.1

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code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
332	Fabricated metal product mfg-Con.							
3323 33231 332311 332312 332313	Architectural & structural metals mfg Plate work & fabricated structural product mfg Prefabricated metal building & component mfg Fabricated structural metal mfg Plate work mfg	11 649 4 423 557 2 872 1 011	26 495 235 10 810 136 1 992 908 7 263 292 1 553 936	4.1 8.3 25.7 10.5 7.5	6.9 13.1 39.3 15.3 12.6	12.9 21.4 58.6 24.7 23.5	21.5 32.6 75.1 36.9 40.2	12.2 37.2 262.3 52.9 41.3
33232 332321 332322 332323 332323	Ornamental & architectural metal products mfg Metal window & door mfg Sheet metal work mfg Ornamental & architectural metal work mfg	7 275 1 249 4 202 1 845	15 685 099 4 775 082 8 660 105 2 249 912	4.6 13.1 4.0 13.6	7.8 22.0 6.8 21.4	14.9 40.2 12.5 31.2	24.8 59.1 21.9 43.6	15.7 106.0 11.8 77.0
3324 33241 332410	Boiler, tank, & shipping container mfg Power boiler & heat exchanger mfg Power boiler & heat exchanger mfg	1 526 436 436	8 927 099 2 073 515 2 073 515	23.8 18.1 18.1	34.4 27.5 27.5	47.6 43.7 43.7	59.9 64.5 64.5	208.3 157.9 157.9
33242 332420	Metal tank (heavy gauge) mfg Metal tank (heavy gauge) mfg	552 552	2 394 902 2 394 902	16.2 16.2	25.1 25.1	40.9 40.9	59.0 59.0	123.9 123.9
33243 332431 332439	Metal can, box, & other metal container (light gauge) mfg Metal can mfg Other metal container mfg	557 107 455	4 458 682 3 497 960 960 722	47.7 60.8 19.2	68.2 86.6 28.4	79.2 96.6 47.0	88.2 99.5 67.3	755.5 1 211.5 165.8
3325 33251 332510	Hardware mfg	906 906 906	6 162 972 6 162 972 6 162 972	18.6 18.6 18.6	28.1 28.1 28.1	48.3 48.3 48.3	69.5 69.5 69.5	168.7 168.7 168.7
3326 33261 332611 332612 332618	Spring & wire product mfg Spring & wire product mfg Spring (heavy gauge) mfg Spring (light gauge) mfg Other fabricated wire product mfg	1 646 1 646 124 320 1 213	4 540 614 4 540 614 422 894 1 393 527 2 724 193	14.4 14.4 26.6 35.2 12.7	20.3 20.3 45.2 46.2 19.7	30.9 30.9 67.9 60.8 31.4	44.8 44.8 91.9 77.0 47.2	95.1 95.1 337.5 495.6 77.9
3327 33271 332710	Machine shops, turned product, & screw, nut, & bolt mfg Machine shops Machine shops	26 999 23 430 23 430	28 535 557 18 330 482 18 330 482	3.4 1.2 1.2	5.2 2.0 2.0	7.8 3.8 3.8	11.9 7.3 7.3	5.4 1.2 1.2
33272 332721 332722	Turned product & screw, nut, & bolt mfg Precision turned product mfg Bolt, nut, screw, rivet, & washer mfg	3 593 2 696 913	10 205 075 5 493 232 4 711 843	9.4 3.6 20.3	14.2 6.7 30.5	21.1 13.1 43.4	31.1 22.9 59.3	39.8 12.5 173.6
3328 33281 332811 332812	Coating, engraving, heat treating, & allied activities Coating, engraving, heat treating, & allied activities. Metal heat treating	5 885 5 885 662	10 331 294 10 331 294 2 020 611	5.9 5.9 15.8	9.4 9.4 23.9	15.6 15.6 39.3	24.7 24.7 54.5	18.2 18.2 116.9
332813	allied services	1 978 3 286	4 154 477 4 156 206	14.4 3.9	21.1 6.9	32.0 12.6	44.5 21.9	80.5 11.9
3329 33291 332911 332912 332913 332913 332919	Other fabricated metal product mfg Metal valve mfg Industrial valve mfg Fluid power valve & hose fitting mfg Plumbing fixture fitting & trim mfg Other metal valve & pipe fitting mfg	6 040 1 077 429 360 97 220	28 558 322 12 516 090 5 115 344 3 934 823 1 863 303 1 602 620	10.5 19.6 28.3 40.8 46.8 25.8	17.7 30.2 38.7 53.4 59.5 38.3	30.7 44.5 57.1 71.2 79.1 62.2	45.3 62.4 76.2 86.1 96.1 83.2	63.8 156.0 352.5 531.9 994.7 291.5
33299 332991 332992 332993 332994 332995 332995 332996 332997 332998 332998 332999	All other fabricated metal product mfg Ball & roller bearing mfg Small arms ammunition mfg Ammunition (except small arms) mfg Other ordnance & accessories mfg Fabricated pipe & pipe fitting mfg Enameled iron & metal sanitary ware mfg All other miscellaneous fabricated metal product mfg	5 011 116 107 45 189 65 806 668 82 2 955	16 042 232 3 742 916 610 244 834 457 860 866 1 021 358 2 104 979 483 129 969 728 5 414 555	12.7 47.4 88.8 64.9 47.0 81.8 18.2 11.5 58.0 10.0	20.1 65.6 94.2 85.2 66.7 89.2 25.4 18.3 76.9 14.8	34.2 88.4 97.7 98.7 86.8 96.1 37.3 30.7 94.6 23.8	47.8 98.5 99.5 100.0 94.6 99.8 54.7 48.3 99.4 36.8	82.5 848.6 D 1 456.3 741.3 2 079.7 133.1 71.0 1 733.9 46.4
333	Machinery mfg	27 983	137 934 706	11.2	14.7	22.4	32.2	49.0
3331 33311 333111 333111	Agriculture, construction, & mining machinery mfg Agricultural implement mfg Farm machinery & equipment mfg Lawn & garden tractor & home lawn & garden	2 832 1 386 1 264	24 431 912 10 355 405 7 624 789	37.9 52.2 57.9	44.2 61.0 63.8	57.1 72.3 72.6	69.2 82.3 81.7	602.4 1 619.6 2 133.8
33312 333120	equipment mfg Construction machinery mfg Construction machinery mfg	127 723 723	2 730 616 9 129 152 9 129 152	57.0 48.9 48.9	78.0 59.3 59.3	94.2 71.8 71.8	98.8 83.9 83.9	1 054.4 1 017.7 1 017.7
33313 333131 333132	Mining & oil & gas field machinery mfg Mining machinery & equipment mfg Oil & gas field machinery & equipment mfg	748 261 494	4 947 355 1 379 429 3 567 926	24.7 38.6 32.0	39.5 53.7 48.0	60.2 70.0 70.1	76.1 86.0 83.9	267.4 523.3 403.4
3332 33321 333210	Industrial machinery mfg Sawmill & woodworking machinery mfg Sawmill & woodworking machinery mfg	4 439 312 312	19 456 056 681 679 681 679	12.5 25.7 25.7	18.8 40.2 40.2	28.6 62.3 62.3	41.7 81.8 81.8	76.8 286.9 286.9
33322 333220	Plastics & rubber industry machinery mfg Plastics & rubber industry machinery mfg	427 427	1 950 024 1 950 024	34.4 34.4	45.8 45.8	61.0 61.0	78.4 78.4	468.2 468.2
33329 333291 333292 333293 333294 333295 333295 333298	Other industrial machinery mfg Paper industry machinery mfg Printing machinery mfg Food product machinery mfg Semiconductor machinery mfg All other industrial machinery mfg	3 713 330 454 504 573 244 1 634	16 824 353 1 622 283 1 026 304 2 030 816 1 581 509 6 010 313 4 553 128	14.4 29.8 30.9 28.8 19.7 40.0 11.1	21.2 44.1 40.9 41.8 29.0 56.3 17.2	31.6 66.0 57.0 58.7 43.4 76.1 27.6	45.2 82.2 73.9 74.6 62.4 90.9 42.7	97.4 350.5 390.6 323.7 154.9 660.4 59.8

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code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
333	Machinery mfg-Con.							
3333 33331 333311 333312	Commercial & service industry machinery mfg Commercial & service industry machinery mfg Automatic vending machine mfg Commercial laundry, drycleaning, & pressing	2 492 2 492 117	14 215 075 14 215 075 604 438	31.1 31.1 66.2	37.1 37.1 83.2	49.2 49.2 91.1	60.8 60.8 97.1	552.8 552.8 1 490.9
333313 333314 333315 333319	Office machine mfg Office machinery mfg Optical instrument & lens mfg Photographic & photocopying equipment mfg Other commercial & service industry machinery	63 158 482 412	270 351 1 807 173 1 979 483 4 478 703	45.0 60.8 30.4 D	66.0 71.3 39.8 85.7	91.4 83.0 55.3 90.7	99.8 94.5 73.7 94.4	770.0 1 340.7 320.4 D
000010	mfg	1 274	5 074 927	16.8	25.6	40.5	57.9	120.1
3334 33341	Ventilation, heating, AC, & commercial refrigeration equip mfg Ventilation, heating, AC, & commercial refrigeration	1 563	14 637 803	28.0	37.3	52.4	65.3	252.0
333411 333412 333414	equip mfg Air purification equipment mfg Industrial & commercial fan & blower mfg Heating equipment (except warm air furnaces)	1 563 333 173	14 637 803 1 199 939 1 003 573	28.0 22.6 24.0	37.3 36.8 39.5	52.4 57.3 65.7	65.3 77.6 87.2	252.0 244.1 289.0
333414	AC & warm air heating & commercial/industrial refrig equip mfg.	441 646	2 068 353 10 365 938	19.7 39.2	30.1 52.0	49.3 71.4	72.3 83.1	181.4 481.8
3335 33351 333511 333512 333513 333513 333515 333515 333516 333518	Metalworking machinery mfg Metalworking machinery mfg Industrial mold mfg Machine tool (metal cutting types) mfg Special die & tool, die set, jig, & fixture mfg Cutting tool & machine tool accessory mfg Rolling mill machinery & equipment mfg Other metalworking machinery mfg	$\begin{array}{cccc} 10 & 000 \\ 10 & 000 \\ 2 & 475 \\ 368 \\ 219 \\ 4 & 667 \\ 1 & 820 \\ 98 \\ 446 \end{array}$	19 331 066 19 331 066 3 685 924 2 666 276 1 285 781 5 938 346 3 614 484 363 586 1 776 669	6.9 6.9 24.9 22.9 5.7 22.7 23.7 53.9 16.3	9.6 9.6 9.4 40.4 35.8 8.6 28.9 70.9 24.6	15.2 15.2 16.3 56.9 55.2 14.6 39.9 86.0 39.4	23.2 23.2 26.1 73.9 74.5 24.0 53.7 97.5 60.1	21.7 20.6 277.3 225.7 16.6 228.4 920.5 120.0
3336	Engine, turbine, & power transmission equipment mg Engine, turbine, & power transmission equipment	789	14 530 618	39.8	54.8	69.6	83.6	566.2
33361 333611	Engine, turbine, & power transmission equipment mfg Turbine & turbine generator set unit mfg Speed changer, industrial high-speed drive, &	789 68	14 530 618 2 841 914	39.8 79.4	54.8 90.5	69.6 97.0	83.6 99.9	566.2 2 403.9
333612 333613 333618	Speed changer, industrial high-speed drive, & gear mfg Mechanical power transmission equipment mfg Other engine equipment mfg	237 259 245	1 461 859 1 886 164 8 340 681	30.8 24.7 56.9	44.6 40.1 75.6	67.0 65.7 89.4	82.9 86.5 96.9	350.8 300.8 1 052.8
3339 33391 333911 333912 333913	Other general-purpose machinery mfg Pump & compressor mfg Pump & pumping equipment mfg Air & gas compressor mfg Measuring & dispensing pump mfg	6 347 723 406 269 63	31 332 176 6 640 563 3 403 918 2 646 794 589 851	5.6 18.8 24.2 32.2 56.1	10.5 29.6 39.2 48.1 77.4	21.5 50.6 60.7 71.2 93.5	36.6 72.8 83.0 90.2 99.5	32.2 174.7 275.6 406.4 1 108.1
33392 333921 333922 333923	Material handling equipment mfg Elevator & moving stairway mfg Conveyor & conveying equipment mfg Overhead traveling crane, hoist, & monorail	1 741 178 864	7 238 952 748 229 3 069 183	12.4 50.8 18.0	21.6 63.5 24.3	36.5 76.0 35.2	49.8 89.6 50.8	86.2 777.6 116.2
333924	system mfg Industrial truck, tractor, trailer, & stacker machinery mfg	283 435	1 451 136 1 970 404	32.9 36.7	47.2 47.6	68.4 63.3	84.8 77.7	407.1 431.7
33399 333991 333992 333993 333994 333995 333995 333996 333997 333999	All other general-purpose machinery mfg Power-driven handtool mfg Packaging machinery mfg Industrial process furnace & oven mfg Fluid power cylinder & actuator mfg Fluid power pump & motor mfg Scale & balance (except laboratory) mfg All other miscellaneous general-purpose machinery mfg	3 938 198 218 644 378 282 149 110 2 005	17 452 661 1 983 354 2 027 004 2 706 010 1 514 761 2 155 657 1 526 099 329 428 5 210 348	9.4 47.5 50.4 19.0 21.3 47.5 50.7 13.7	17.5 68.3 61.7 28.5 35.0 56.4 73.0 62.7 19.8	29.5 88.9 74.1 45.4 51.2 71.2 89.6 78.8 32.4	44.2 95.8 88.9 64.1 70.4 87.7 96.4 94.5 48.6	58.8 825.0 772.8 161.0 205.0 724.0 798.7 1 029.4 97.9
334	Computer & electronic product mfg	15 492	252 629 768	20.8	30.3	42.3	56.1	170.7
3341 33411 334111 334112 334113 334113 334119	Computer & peripheral equipment mfg Computer & peripheral equipment mfg Electronic computer mfg Computer storage device mfg Computer terminal mfg Other computer peripheral equipment mfg	1 870 1 870 531 203 141 1 015	44 111 746 44 111 746 25 908 268 7 386 606 531 875 10 284 997	28.1 28.1 40.0 52.1 40.0 41.9	48.8 48.8 68.4 76.9 63.8 54.8	69.8 69.8 90.0 93.0 84.7 69.0	85.0 85.0 96.6 98.2 96.4 83.1	359.6 359.6 658.2 902.4 611.7 557.3
3342 33421 334210	Communications equipment mfg	2 078 548 548	48 040 124 23 766 132 23 766 132	36.4 55.3 55.3	49.2 68.9 68.9	65.2 81.6 81.6	77.4 90.4 90.4	434.6 1 061.1 1 061.1
33422 334220	Radio & TV broadcasting & wireless communications equipment mfg Radio & TV broadcasting & wireless communications equipment mfg	1 096 1 096	21 773 109 21 773 109	47.9 47.9	59.0 59.0	71.2 71.2	81.4 81.4	836.5 836.5
33429 334290	Other communications equipment mfg Other communications equipment mfg	461 461	2 500 883 2 500 883	43.3 43.3	54.8 54.8	72.0 72.0	86.1 86.1	679.1 679.1
3343 33431 334310	Audio & video equipment mfg Audio & video equipment mfg Audio & video equipment mfg	521 521 521	2 372 815 2 372 815 2 372 815	34.1 34.1 34.1	51.1 51.1 51.1	69.9 69.9 69.9	85.6 85.6 85.6	437.2 437.2 437.2

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334	Computer & electronic product mfg-Con.							
3344 33441 334412 334412 334413 334414 334415 334416 334417	Semiconductor & other electronic component mfg Semiconductor & other electronic component mfg Electron tube mfg Bare printed circuit board mfg Semiconductor & related device mfg Electronic capacitor mfg Electronic resistor mfg Electronic coil, transformer, & other inductor mfg. Electronic connector mfg.	5 652 5 652 147 1 319 993 112 90 426 281	94 354 658 94 354 658 1 568 417 5 062 300 64 135 313 1 444 666 801 153 936 268 3 788 056	41.7 41.7 52.0 18.2 59.9 63.6 36.2 11.5 51.0	50.7 50.7 71.5 26.7 70.3 74.7 53.4 19.4 63.1	62.1 62.1 88.4 41.6 83.2 87.7 79.8 35.1 77.7	71.6 71.6 97.5 59.5 91.7 97.2 96.6 54.4 89.2	688.7 688.7 1 012.0 1 36.9 1 407.3 1 251.6 577.2 88.1 1 536.7
334418 334419	Printed circuit assembly (electronic assembly) mfg Other electronic component mfg	673 1 781	10 592 734 6 025 751	39.1 9.4	52.5 14.9	65.6 27.6	76.8 45.1	487.3 55.3
3345	Navigational, measuring, medical, & control instruments mfg	4 845	58 284 906	26.8	36.0	49.8	63.6	249.2
33451	Navigational, measuring, medical, & control instruments mfg	4 845	58 284 906	26.8	36.0	49.8	63.6	249.2
334510 334511	Electromedical & electrotherapeutic apparatus mfg	490	7 619 290	25.1	41.6	64.4	83.9	293.2
334512 334513 334514 334515 334516 334516 334517 334518 334519	instrument mfg	579 297 919 210 762 637 134 145 826	23 155 326 1 737 147 4 914 894 1 996 360 8 991 807 4 111 184 2 075 258 550 979 3 132 661	59.1 55.5 33.8 50.9 44.7 33.5 59.1 51.6 16.4	77.1 66.8 42.3 68.4 55.0 47.6 75.1 66.5 27.3	88.9 79.2 55.5 85.5 66.7 62.0 90.7 88.2 41.7	95.3 88.8 68.9 94.1 79.8 76.3 97.3 97.3 59.3	1 234.5 1 001.3 424.8 954.2 658.8 373.2 1 244.0 854.5 130.1
3346 33461 334611 334612	Mfg & reproducing magnetic & optical media Mfg & reproducing magnetic & optical media Software reproducing Prerecorded CD (except software), tape, &	843 843 112	5 465 519 5 465 519 786 164	26.3 26.3 65.6	42.0 42.0 74.2	64.3 64.3 86.5	81.1 81.1 96.4	297.0 297.0 D
334613	record reproducing	492 241	2 379 126 2 300 229	38.7 39.1	54.3 60.7	73.4 88.4	84.9 96.5	519.1 599.2
335	Electrical equipment, appliance, & component mfg	5 839	57 215 610	15.1	24.5	38.0	51.7	114.2
3351 33511 335110	Electric lighting equipment mfg Electric lamp bulb & part mfg Electric lamp bulb & part mfg	1 211 54 54	7 038 950 2 119 597 2 119 597	36.3 89.7 89.7	49.1 94.1 94.1	61.5 98.7 98.7	72.5 99.9 99.9	465.7 D D
33512 335121 335122	Lighting fixture mfg Residential electric lighting fixture mfg Commercial/industrial/institutional electric lighting	1 160 543	4 919 353 1 166 774 2 070 729	25.7 23.3	36.5 35.3	50.5 54.5	64.9 72.6	226.6 259.1
335129	fixture mfg Other lighting equipment mfg	326 310	1 681 850	37.5 25.5	54.3 40.0	68.8 62.0	82.8 82.4	511.6 280.5
3352 33521 335211 335212	Household appliance mfg Small electrical appliance mfg Electric housewares & household fan mfg Household vacuum cleaner mfg	265 144 119 25	10 082 604 2 869 205 1 666 523 1 202 682	53.2 36.4 47.6 67.0	65.5 55.7 69.3 94.4	82.7 87.9 92.9 99.9	96.8 98.7 99.1 100.0	839.8 559.0 790.3 1 664.8
33522 335221 335222 335224 335228	Major appliance mfg Household cooking appliance mfg Household refrigerator & home freezer mfg Household laundry equipment mfg Other major household appliance mfg	126 77 21 10 32	7 213 399 1 704 606 1 941 186 1 792 070 1 775 537	66.1 64.7 82.8 92.7 68.1	81.3 84.0 97.6 D 95.2	95.5 98.3 D 100.0 99.9	99.9 99.9 100.0 N 100.0	1 319.6 1 334.0 2 161.6 D 1 429.7
3353 33531 335311 335312 335313 335313 335314	Electrical equipment mfg Electrical equipment mfg Power, distribution, & specially transformer mfg Motor & generator mfg. Switchgear & switchboard apparatus mfg Relay & industrial control mfg.	2 517 2 517 275 559 496 1 241	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	26.8 26.8 44.0 39.3 52.7 34.1	41.8 41.8 61.7 51.7 65.6 44.7	56.6 56.6 79.3 69.9 77.9 55.7	68.1 68.1 91.8 85.2 86.4 68.5	271.5 271.5 646.1 580.9 912.3 465.2
3359 33591 335911 335912	Other electrical equipment & component mfg Battery mfg Storage battery mfg Primary battery mfg	1 939 127 96 35	20 852 914 3 560 826 2 169 833 1 390 993	11.3 48.1 55.8 89.1	17.8 74.4 76.0 97.8	33.1 93.1 93.2 99.9	54.3 99.1 99.5 100.0	82.4 910.1 931.9 D
33592 335921 335929	Communication & energy wire & cable mfg Fiber optic cable mfg Other communication & energy wire mfg	219 36 193	6 229 721 1 373 769 4 855 952	30.2 70.6 26.0	43.0 85.1 41.3	68.4 97.5 68.7	86.8 100.0 87.3	390.3 2 353.5 312.1
33593 335931 335932	Wiring device mfg Current-carrying wiring device mfg Noncurrent-carrying wiring device mfg	604 446 168	6 008 044 3 553 666 2 454 378	19.8 23.4 35.7	33.3 36.8 57.6	56.2 61.8 82.8	78.9 81.8 95.9	210.5 259.4 516.8
33599 335991 335999	All other electrical equipment & component mfg Carbon & graphite product mfg All other miscellaneous electrical equipment & component mfg	1 026 99 928	5 054 323 1 267 908 3 786 415	12.2 48.5 12.7	21.7 70.7 20.4	37.4 88.9 34.9	55.4 97.7 53.0	93.7 769.8 85.0
336	Transportation equipment mfg	10 979	227 510 551	44.7	54.0	66.0	74.8	708.7
3361 33611 336111 336112	Motor vehicle mfg. Automobile & light duty motor vehicle mfg. Automobile mfg. Light truck & utility vehicle mfg.	325 253 173 84	72 574 976 68 314 274 28 937 270 39 377 004	87.3 92.8 87.4 99.5	93.8 98.1 97.0 99.9	98.8 99.6 99.4 99.9	99.7 99.9 99.9 99.9 99.9	D D 2 725.0 D
33612 336120	Heavy duty truck mfg Heavy duty truck mfg	75 75	4 260 702 4 260 702	79.2 79.2	90.2 90.2	98.3 98.3	99.8 99.8	1 683.6 1 683.6
3362 33621 336211 336212 336213 336214	Motor vehicle body & trailer mfg Motor vehicle body & trailer mfg Motor vehicle body mfg Truck trailer mfg Motor home mfg Travel trailer & camper mfg	1 922 1 922 747 355 75 761	7 693 717 7 693 717 2 995 537 1 788 126 1 178 051 1 732 003	18.4 18.4 27.6 39.8 53.4 24.4	26.7 26.7 36.4 50.6 76.8 32.2	41.1 41.1 53.1 68.1 94.3 46.7	57.0 57.0 72.0 84.7 99.9 66.3	140.9 140.9 364.5 521.8 1 005.3 261.9

See footnotes at end of table.

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

NACIS					Percent of val accounted for			Herfindahl- Herschmann
code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
336	Transportation equipment mfg-Con.							
3363 33631 336311 336312	Motor vehicle parts mfg	4 767 924 122 810	73 797 867 9 597 585 1 587 949 8 009 636	38.3 47.8 57.3 51.6	45.6 61.3 77.9 64.2	57.6 74.3 92.9 76.7	68.3 86.8 98.6 89.0	531.4 777.6 1 246.7 817.4
33632 336321 336322	Motor vehicle electrical & electronic equipment mfg Vehicular lighting equipment mfg Other motor vehicle electrical & electronic	981 99	9 574 476 1 612 341	51.6 57.8	59.2 76.8	73.0 92.6	84.8 99.4	1 398.4 1 136.8
	equipment mfg	890	7 962 135	53.5	62.5	75.2	85.7	1 594.5
33633 336330	Motor vehicle steering & suspension component (except spring) mfg	183 183	5 234 835 5 234 835	63.4 63.4	76.6 76.6	87.6 87.6	97.4 97.4	1 801.2 1 801.2
33634 336340	Motor vehicle brake system mfg Motor vehicle brake system mfg	203 203	4 046 472 4 046 472	51.6 51.6	72.7 72.7	87.6 87.6	96.7 96.7	1 011.4 1 011.4
33635 336350	Motor vehicle transmission & power train parts mfg . Motor vehicle transmission & power train parts mfg	427 427	11 916 802 11 916 802	55.4 55.4	78.1 78.1	89.8 89.8	95.6 95.6	952.1 952.1
33636 336360	Motor vehicle seating & interior trim mfg Motor vehicle seating & interior trim mfg	280 280	4 272 286 4 272 286	61.2 61.2	73.4 73.4	85.7 85.7	95.5 95.5	1 355.3 1 355.3
33637 336370	Motor vehicle metal stamping Motor vehicle metal stamping	662 662	10 915 335 10 915 335	45.0 45.0	50.1 50.1	58.4 58.4	70.3 70.3	663.4 663.4
33639 336391 336399	Other motor vehicle parts mfg Motor vehicle air-conditioning mfg All other motor vehicle parts mfg	1 321 58 1 271	18 240 076 2 701 288 15 538 788	31.7 82.4 24.7	41.6 91.7 36.1	56.6 98.6 53.3	71.3 99.9 69.4	337.0 D 228.5
3364 33641 336411 336412 336413 336414 202415	Aerospace product & parts mfg Aerospace product & parts mfg Aircraft mfg Aircraft engine & engine parts mfg Other aircraft part & auxiliary equipment mfg Guided missile & space vehicle mfg	1 530 1 530 172 281 1 049 15	57 688 592 57 688 592 20 767 608 11 679 669 13 110 835 9 492 504	55.6 55.6 80.9 74.2 55.2 91.6	75.0 75.0 94.6 79.9 68.6 99.6	85.2 85.2 98.0 86.2 77.2 100.0	90.8 90.8 99.6 93.4 85.6 N	1 030.8 1 030.8 2 526.2 1 753.7 1 126.2 D
336415 336419	Guided missile & space vehicle propulsion unit & parts mfg Other guided missile & space vehicle parts & auxiliary equip mfg	19 48	2 062 154 575 822	78.6 71.6	97.2 85.7	100.0 97.1	N 100.0	2 055.5 2 327.4
3365 33651 336510	Railroad rolling stock mfg Railroad rolling stock mfg Railroad rolling stock mfg	173 173 173	3 345 283 3 345 283 3 345 283	52.9 52.9 52.9	71.3 71.3 71.3	89.3 89.3 89.3	97.3 97.3 97.3	1 219.9 1 219.9 1 219.9
3366 33661 336611 336612	Ship & boat building . Ship & boat building . Ship building & repairing . Boat building .	1 630 1 630 649 984	8 602 771 8 602 771 6 202 797 2 399 974	43.1 43.1 56.1 38.9	53.7 53.7 66.1 47.2	65.4 65.4 77.2 58.3	75.5 75.5 86.9 72.4	578.7 578.7 1 020.2 620.1
3369 33699 336991 336992	Other transportation equipment mfg Other transportation equipment mfg Motorcycle, bicycle, & parts mfg Military armored vehicle, tank, & tank component	758 758 373	3 807 345 3 807 345 1 605 782	40.4 40.4 63.9	56.6 56.6 74.7	75.8 75.8 84.2	84.8 84.8 91.5	610.1 610.1 2 104.3
336999	All other transportation equipment mfg	37 349	543 119 1 658 444	86.1 50.3	92.6 71.7	98.9 81.6	100.0 90.4	D 807.3
337	Furniture & related product mfg	19 838	34 839 134	12.6	19.2	28.6	38.8	67.7
3371 33711 337110	Household & institutional furniture & kitchen cabinet mfg Wood kitchen cabinet & counter top mfg Wood kitchen cabinet & counter top mfg	14 732 7 872 7 872	19 152 783 5 155 365 5 155 365	14.3 19.2 19.2	19.6 27.0 27.0	29.5 37.3 37.3	40.9 45.5 45.5	77.4 129.2 129.2
33712 337121 337122 337124 337125 337125 337127 337129	Household & institutional furniture mfg Upholstered household furniture mfg Nonupholstered wood household furniture mfg Household furniture mfg Institutional furniture (except wood & metal) mfg Institutional furniture mfg Wood television, radio, & sewing machine cabinet mfg.	6 867 1 566 3 677 389 211 977 99	13 997 418 3 978 674 5 905 184 1 235 159 271 862 2 456 703 149 836	18.9 34.0 26.2 24.7 47.8 19.4 45.5	25.1 41.7 36.9 37.8 64.3 28.3 61.3	35.7 55.8 51.8 62.8 81.0 42.1 84.3	48.3 69.4 65.3 82.3 93.2 58.8 96.8	129.7 356.1 256.8 270.9 745.1 159.0 742.2
3372 33721 337211 337212 337212 337214 337215	Office furniture (including fixtures) mfg Office furniture (including fixtures) mfg Wood office furniture mfg Custom architectural woodwork & millwork mfg Office furniture (except wood) mfg Showcase, partition, shelving, & locker mfg	4 086 4 086 639 1 094 303 2 073	12 559 656 12 559 656 1 744 454 1 352 631 5 018 286 4 444 285	30.8 30.8 35.9 8.6 67.2 11.3	38.2 38.2 43.8 12.8 81.3 16.7	45.0 45.0 55.8 21.5 88.9 27.5	53.3 53.3 70.7 36.2 94.8 42.0	315.8 315.8 433.4 39.3 1 505.3 63.1
3379 33791 337910	Other furniture related product mfg Mattress mfg Mattress mfg	1 071 628 628	3 126 695 1 977 231 1 977 231	36.2 41.6 41.6	46.6 48.6 48.6	57.8 58.9 58.9	69.3 71.9 71.9	400.7 658.1 658.1
33792 337920	Blind & shade mfg Blind & shade mfg	443 443	1 149 464 1 149 464	55.2 55.2	66.6 66.6	76.9 76.9	87.3 87.3	1 029.3 1 029.3

See footnotes at end of table.

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

NACIS code	Industry group and industry	Companies ¹	Value added by manufacture (\$1000)	Percent of value added accounted for by the ² -				Herfindahl- Herschmann
				4 largest companies	8 largest companies	20 largest companies	50 largest companies	index for 50 largest companies ³
339	Miscellaneous mfg	30 335	61 452 548	9.4	14.1	22.6	34.1	47.2
3391 33911 339111 339112 339113 339114 339115 339116	Medical equipment & supplies mfg Medical equipment & supplies mfg	12 123 12 123 371 1 456 1 511 849 520 7 490	30 613 184 30 613 184 1 344 180 13 148 075 9 863 213 1 717 856 2 387 162 2 152 698	18.6 18.6 18.7 35.0 18.5 38.4 49.4 5.6	27.0 27.0 32.4 48.1 30.7 47.2 62.9 7.3	40.4 40.4 54.7 65.2 52.9 64.2 80.3 10.1	57.2 57.2 75.2 78.8 70.5 78.6 89.3 15.1	166.6 195.4 435.5 180.3 459.7 794.7 10.4
3399	Other miscellaneous mfg	18 232	30 839 364	6.7	11.4	19.8	29.1	26.2
33991	Jewelry & silverware mfg	3 737	3 991 201	14.4	19.8	30.3	45.2	90.6
339911	Jewelry (except costume) mfg	2 278	2 376 932	13.5	20.2	33.1	48.0	84.7
339912	Silverware & plated ware mfg	158	529 984	68.0	76.9	87.5	95.6	2 780.9
339913	Jewelers' material & lapidary work mfg	391	275 984	26.7	39.7	60.4	77.4	293.2
339914	Costume jewelry & novelty mfg	917	808 301	26.9	41.3	55.8	69.5	279.7
33992	Sporting & athletic goods mfg	2 477	5 866 075	24.1	31.2	45.0	61.3	191.6
339920	Sporting & athletic goods mfg	2 477	5 866 075	24.1	31.2	45.0	61.3	191.6
33993	Doll, toy, & game mfg	995	2 816 422	41.6	51.7	63.4	77.7	555.4
339931	Doll & stuffed toy mfg	239	194 644	33.0	55.6	75.5	90.5	452.5
339932	Game, toy, & children's vehicle mfg	756	2 621 778	44.7	55.5	68.2	81.6	639.3
33994	Office supplies (except paper) mfg	999	2 590 428	32.8	43.6	58.3	74.3	379.4
339941	Pen & mechanical pencil mfg	106	916 161	64.0	77.6	89.4	97.9	1 297.2
339942	Lead pencil & art good mfg	171	810 183	59.1	71.0	84.5	94.9	1 352.6
339943	Marking device mfg	617	423 895	22.3	34.3	50.6	66.6	197.8
339944	Carbon paper & inked ribbon mfg	106	440 189	41.3	61.2	83.9	95.2	615.2
33995	Sign mfg	5 580	4 637 205	8.8	12.6	19.9	30.5	36.6
339950		5 580	4 637 205	8.8	12.6	19.9	30.5	36.6
33999	All other miscellaneous mfg	4 475	10 938 033	11.3	17.9	29.2	43.6	66.6
339991	Gasket, packing, & sealing device mfg	561	3 132 922	25.0	37.7	56.1	74.1	248.8
339992	Musical instrument mfg	552	836 529	32.3	46.4	67.0	82.3	462.1
339993	Fastener, button, needle, & pin mfg	240	503 706	49.1	59.0	73.7	90.6	1 049.3
339994	Broom, brush, & mop mfg	306	1 157 593	25.9	39.5	63.1	81.2	296.3
339995	Burial casket mfg	161	857 988	80.1	84.2	91.0	96.0	D
339999	All other miscellaneous mfg	2 660	4 449 295	14.2	22.5	35.8	48.9	93.8

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control. ²Value added concentration ratios are presented as an alternative to the traditional value of shipments concentration ratios because value of shipments typically include an immeasurable amount of duplication. However, eliminating duplication can both raise and lower the concentration ratios. Also, use of value added results in more differences than those associated with eliminating duplication and frequently results in the inclusion of different companies in the company groups. ³The Herfindahl-Herschmann index is calculated by summing the squares of the individual company percentages for the 50 largest companies or the universe, whichever is lower.

Appendix A. Explanation of Terms

COST OF MATERIALS

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

Included in this item are:

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

EMPLOYEES

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

Production Workers

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

All Other Employees

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

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

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location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

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

PAYROLL

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

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

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

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.

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained. Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

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

VALUE ADDED

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

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

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

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials. In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

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

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

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

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

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

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENT

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

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

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

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

Appendix B. NAICS Codes, Titles, and Descriptions

Not applicable for this report.

Appendix C. Coverage and Methodology

MAIL/NONMAIL UNIVERSE

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

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

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

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

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

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

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

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

2. Establishments sent a report form.

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

a. ASM sample establishments.

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

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

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

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

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

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

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

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

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

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

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

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

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

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

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

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

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

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

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

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

ESTABLISHMENT BASIS OF REPORTING

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

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

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

DESCRIPTION OF THE ASM SURVEY SAMPLE

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

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

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

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

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

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

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

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

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

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

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

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

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

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

QUALIFICATIONS OF THE ASM DATA

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

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

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

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

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

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

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

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

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

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

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

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

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

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

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

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

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

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

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

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

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas

Not applicable for this report.

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