

# Manufactures

This section presents summary data for manufacturing as a whole and more detailed information for major industry groups and selected products. The types of measures shown at the different levels include data for establishments; employment and wages; raw materials, fuels, and electricity consumed; plant and equipment expenditures; value and quantity of production and shipments; value added by manufacture; inventories; and various indicators of financial status.

The principal sources of these data are Bureau of the Census reports of the censuses of manufactures conducted every 5 years; the *Annual Survey of Manufactures*; and the *Current Industrial Reports* series, which presents monthly, quarterly, or annual data on production, shipments, and stocks for particular commodities. Indexes of industrial production are presented monthly in the Federal Reserve Board's *Federal Reserve Bulletin*. Reports on current activities of industries, or current movements of individual commodities, are compiled by such government agencies as the Bureau of Labor Statistics; the Economic Research Service of the Department of Agriculture; the International Trade Administration; and by private research or trade associations such as The Conference Board, Inc., New York, NY and the American Iron and Steel Institute, Washington, DC.

Data on financial aspects of manufacturing industries are collected by the Bureau of Economic Analysis (BEA) and the Bureau of the Census. Industry aggregates in the form of balance sheets, profit and loss statements, analyses of sales and expenses, lists of subsidiaries, and types and amounts of security issues are published for leading manufacturing corporations registered with the Securities and Exchange Commission. The BEA issues data on capital in manufacturing industries and capacity utilization rates in manufacturing. See also section 17, Business Enterprise.

**Censuses and annual surveys.**—The first census of manufactures covered the year 1809. Between 1809 and 1963, a census was conducted at periodic intervals. Since 1967 it has been taken every

## In Brief

Personal computer shipments topped 14.8 million units in 1993.

1-megabit DRAM chips:

	1993
<i>Revenue (millions)</i>	\$2,031
<i>Shipments (mil. units)</i>	601

5 years (for years ending in "2" and "7"). Census data, either direct reports or estimates from administrative records, are obtained for every manufacturing plant with one paid employee or more.

The *Annual Survey of Manufactures (ASM)*, conducted for the first time in 1949, collects data for the years between censuses for the more general measures of manufacturing activity covered in detail by the censuses. The annual survey data are estimates derived from a scientifically selected sample of establishments. The 1991 annual survey is based on a sample of about 55,000 establishments of an approximate total of 200,000. These establishments represent all manufacturing establishments of multiunit companies and all single-establishment manufacturing companies mailed schedules in the 1987 Census of Manufactures. The 1989 through 1993 ASM sample is similar to the previous sample. For the current panel, all establishments of companies with 1987 shipments in manufacturing in excess of \$500 million were included in the survey with certainty. For the remaining portion of the mail survey, the establishment was defined as the sampling unit. For this portion, all establishments with 250 employees or more and establishments with a very large value of shipments also were included. Therefore, of the 55,000 establishments included in the ASM panel, approximately 28,000 are selected with certainty. These establishments account for approximately 80 percent of total value of shipments in the 1987 census. Smaller establishments in the

remaining portion of the mail survey were selected by sample.

The basic statistical measures of manufacturing activity, such as employment, payrolls, value added, etc., are defined in essentially the same way for both the annual surveys and the census of manufactures. However, the bases for computing average employment vary for different years. For example, beginning with 1949, average employment was calculated from the figures reported for the pay periods ending nearest the 15th of March, May, August, and November; whereas, for 1947 such averages were based on 12 monthly employment figures. In 1967, the average employment calculation was revised to the pay periods which include the 12th of March, May, August, and November to provide data more comparable with other statistical series.

**Establishments and classification.**—

The censuses of manufactures for 1947 through 1987 cover operating manufacturing establishments as defined in the *Standard Industrial Classification Manual (SIC)*, issued by the U.S. Office of Management and Budget (see text, section 13). The *Manual* is also used for classifying establishments in the annual surveys. The comparability of manufactures data over time is affected by changes in the official definitions of industries as presented in the *Manual*. It is important to note, therefore, that the 1987 edition of the *Manual* was used for the 1987 census; and the 1972 edition of the *Manual* and the 1977 *Supplement* were used for the 1972 through 1982 censuses. For the censuses from 1947 to 1963, reports were required from all establishments employing one or more persons at any time during the census year. Beginning with the 1967 census, an effort was made to relieve the very small establishments from the necessity of filing a census report. Approximately 150,000 small single-unit manufacturing firms identified as having less than 20 employees (cutoff varied by industry) benefited from this procedure. Data for these single-unit companies were estimated on the basis of government administrative records and industry averages. Each of the establishments tabulated was classified in one of the approximately 459

manufacturing industries as defined by the *SIC Manual* in 1987. The *Manual* defines an industry as a number of establishments producing a single product or a closely related group of products. In the main, an establishment is classified in a particular industry if its production of a product or product group exceeds in value added its production of any other product group. While some establishments produce only the products of the industry in which they are classified, few within an industry specialize to that extent. The statistics on employment, payrolls, value added, inventories, and expenditures, therefore, reflect both the primary and secondary activities of the establishments in that industry. For this reason, care should be exercised in relating such statistics to the total shipments figures of products primary to the industry.

The censuses for 1947 through 1987 were conducted on an establishment basis. The term "establishment" signifies a single physical plant site or factory. It is not necessarily identical to the business unit or company, which may consist of one or more establishments. A company operating establishments at more than one location is required to submit a separate report for each location. An establishment engaged in distinctly different lines of activity and maintaining separate payroll and inventory records is also required to submit separate reports.

**Durable goods.**—Items with a normal life expectancy of 3 years or more. Automobiles, furniture, household appliances, and mobile homes are common examples.

**Nondurable goods.**—Items which generally last for only a short time (3 years or less). Food, beverages, clothing, shoes, and gasoline are common examples.

**Statistical reliability.**—For a discussion of statistical collection and estimation, sampling procedures and measures of statistical reliability applicable to Census Bureau data, see Appendix III.

**Historical statistics.**—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1970*. See Appendix IV.

## No. 1244. Gross Domestic Product in Manufacturing: 1980 to 1992

[In billions of dollars. 1980 through 1986 data are shown on the basis of the 1972 Standard Industrial Classification (SIC). 1987 through 1992 data are based on the 1987 SIC. Data include nonfactor charges (capital consumption allowances, indirect business taxes, etc.) as well as factor charges against gross product; corporate profits and capital consumption allowances have been shifted from a company to an establishment basis]

ITEM	1980	1985	1987	1988	1989	1990	1991	1992
<b>CURRENT DOLLARS</b>								
Gross domestic product . . . . .	2,708	4,039	4,540	4,900	5,251	1,025	5,725	6,020
Manufacturing . . . . .	588	798	878	961	1,005	1,025	1,033	1,063
Durable goods . . . . .	349	472	502	541	563	564	554	568
Lumber and wood products . . . . .	19	24	31	32	33	31	29	31
Furniture and fixtures . . . . .	8	14	15	16	16	16	16	17
Stone, clay, and glass products . . . . .	18	24	24	24	25	25	23	25
Primary metal industries . . . . .	44	36	36	43	46	44	42	40
Fabricated metal products . . . . .	45	57	59	63	67	67	65	70
Machinery, exc. electrical . . . . .	77	87	(X)	(X)	(X)	(X)	(X)	(X)
Industrial machinery and equipment . . . . .	(X)	(X)	88	100	106	109	101	103
Electric and electronic equipment . . . . .	55	84	(X)	(X)	(X)	(X)	(X)	(X)
Electronic and other electric equipment . . . . .	(X)	(X)	77	81	87	86	88	86
Motor vehicles and equipment . . . . .	27	58	59	59	53	46	45	57
Other transportation equipment . . . . .	26	48	57	56	60	65	66	61
Instruments and related products . . . . .	20	27	40	50	52	56	59	60
Misc. manufacturing industries . . . . .	10	14	15	17	18	19	19	20
Nondurable goods . . . . .	239	327	376	420	442	461	478	495
Food and kindred products . . . . .	52	72	79	83	88	97	102	104
Tobacco manufactures . . . . .	7	11	13	14	14	16	17	19
Textile mill products . . . . .	15	17	20	20	21	22	22	24
Apparel and other textile products . . . . .	17	21	23	24	25	25	26	27
Paper and allied products . . . . .	23	33	39	44	47	46	46	46
Printing and publishing . . . . .	33	52	61	65	71	72	74	77
Chemicals and allied products . . . . .	48	67	82	94	100	104	107	111
Petroleum and coal products . . . . .	24	24	26	41	38	40	44	43
Rubber and misc. plastics products . . . . .	17	26	30	31	34	35	36	39
Leather and leather products . . . . .	4	4	3	4	4	4	4	5
<b>CONSTANT (1987) DOLLARS</b>								
Gross domestic product . . . . .	3,776	4,280	4,540	4,719	4,838	4,897	4,868	4,979
Manufacturing . . . . .	725	811	878	924	932	929	911	925
Durable goods . . . . .	424	468	502	536	543	537	526	534
Lumber and wood products . . . . .	22	25	31	30	29	28	26	25
Furniture and fixtures . . . . .	12	14	15	15	15	14	14	15
Stone, clay, and glass products . . . . .	24	25	24	25	26	26	23	25
Primary metal industries . . . . .	49	35	36	34	33	35	38	36
Fabricated metal products . . . . .	55	58	59	62	61	60	57	60
Machinery, exc. electrical . . . . .	81	78	(X)	(X)	(X)	(X)	(X)	(X)
Industrial machinery and equipment . . . . .	(X)	(X)	88	97	102	102	101	108
Electric and electronic equipment . . . . .	70	83	(X)	(X)	(X)	(X)	(X)	(X)
Electronic and other electric equipment . . . . .	(X)	(X)	77	85	91	91	94	93
Motor vehicles and equipment . . . . .	40	63	59	63	57	49	44	51
Other transportation equipment . . . . .	38	47	57	58	61	64	61	54
Instruments and related products . . . . .	24	27	40	50	50	50	51	50
Misc. manufacturing industries . . . . .	10	14	15	17	17	17	17	17
Nondurable goods . . . . .	301	342	376	387	389	392	385	391
Food and kindred products . . . . .	64	75	79	82	79	84	83	83
Tobacco manufactures . . . . .	20	14	13	12	10	9	9	8
Textile mill products . . . . .	17	18	20	20	21	21	21	23
Apparel and other textile products . . . . .	20	21	23	24	25	24	24	25
Paper and allied products . . . . .	31	36	39	40	39	42	42	44
Printing and publishing . . . . .	53	59	61	63	64	62	59	58
Chemicals and allied products . . . . .	58	67	82	83	84	88	86	88
Petroleum and coal products . . . . .	15	23	26	30	31	26	25	25
Rubber and misc. plastics products . . . . .	19	26	30	30	32	32	33	35
Leather and leather products . . . . .	5	4	4	4	4	4	4	4

X Not applicable.

Source: U.S. Bureau of Economic Analysis, *Survey of Current Business*, May and November 1993.

## No. 1245. Manufactures—Summary: 1967 to 1992

[For establishment coverage, see text, section 27. For composition of regions, see table 26. See also, *Historical Statistics, Colonial Times to 1970*, series P 1-12]

ITEM	Unit	1967	1972	1977	1982	1987	1991 <sup>1</sup>	1992
ALL ESTABLISHMENTS								
Number of establishments <sup>2</sup> . . . . .	1,000 . . . . .	311	321	360	358	369	(NA)	382
With 20 or more employees . . . . .	1,000 . . . . .	110	114	119	123	126	(NA)	125
Employee size-class:								
Establishments <sup>3</sup> . . . . .	1,000 . . . . .	306	313	351	348	359	(NA)	(NA)
Under 20 . . . . .	1,000 . . . . .	199	203	237	230	238	(NA)	(NA)
20 to 99 . . . . .	1,000 . . . . .	74	76	78	84	86	(NA)	(NA)
100 to 249 . . . . .	1,000 . . . . .	20	21	22	21	22	(NA)	(NA)
250 to 999 . . . . .	1,000 . . . . .	11	11	12	11	11	(NA)	(NA)
1,000 and over . . . . .	1,000 . . . . .	3	3	2	2	2	(NA)	(NA)
Form of organization:								
Corporate . . . . .	1,000 . . . . .	153.9	233.2	284.2	283.2	287.4	(NA)	(NA)
Noncorporate . . . . .	1,000 . . . . .	33.2	87.5	75.7	74.0	81.5	(NA)	(NA)
Individual proprietorship . . . . .	1,000 . . . . .	24.9	42.5	52.3	45.6	35.4	(NA)	(NA)
Partnership . . . . .	1,000 . . . . .	6.7	17.7	18.3	15.0	13.2	(NA)	(NA)
All employees: <sup>5</sup>								
Annual average <sup>6</sup> . . . . .	Million . . . . .	19.3	19.0	19.6	19.1	18.9	18.1	18.3
Payroll . . . . .	Bil. dol. . . . .	132	174	264	380	476	529	560
Payroll per employee . . . . .	\$1,000 . . . . .	6.8	9.2	13.5	19.9	25.2	29.3	30.7
Production workers:								
Annual average . . . . .	Million . . . . .	14.0	13.5	13.7	12.4	12.2	11.5	11.7
Percent of all employees . . . . .	Percent . . . . .	72.5	71.1	69.9	64.9	64.6	63.7	63.8
Hours . . . . .	Billion . . . . .	27.8	26.7	26.7	23.5	24.3	23.2	23.6
Hours per worker . . . . .	1,000 . . . . .	2.0	2.0	1.9	1.9	2.0	2.0	2.0
Wages . . . . .	Bil. dol. . . . .	81	106	157	205	251	266	282
Percent of payroll for all employees . . . . .	Percent . . . . .	61.4	60.9	59.5	53.9	52.8	50.0	50.3
Wages per worker . . . . .	\$1,000 . . . . .	5.8	7.9	11.5	16.5	20.6	23.1	24.2
Wages per worker hour . . . . .	Dollar . . . . .	2.91	3.97	5.89	8.72	10.35	11.49	11.94
Value added by manufacture <sup>7</sup> . . . . .	Bil. dol. . . . .	262	354	585	824	1,166	1,314	1,429
Per production worker . . . . .	\$1,000 . . . . .	18.7	26.2	42.7	66.5	95.5	114.1	122.6
Per production worker hour . . . . .	Dollar . . . . .	9.42	13.26	21.91	35.06	47.97	56.70	60.56
Per dollar of workers' wages . . . . .	Dollar . . . . .	3.23	3.34	3.73	4.02	4.64	4.93	5.07
Value added, percent distribution:								
Northeast . . . . .	Percent . . . . .	29.1	26.3	23.7	23.7	23.7	20.5	19.9
North Central . . . . .	Percent . . . . .	35.0	34.9	34.4	29.8	29.8	29.9	30.2
South . . . . .	Percent . . . . .	22.7	25.5	27.4	29.5	29.5	32.2	32.1
West . . . . .	Percent . . . . .	13.0	13.4	14.5	17.0	17.0	17.4	17.8
Cost of materials . . . . .	Bil. dol. . . . .	299	407	782	1,130	1,320	1,504	1,571
Value of shipments <sup>8</sup> . . . . .	Bil. dol. . . . .	557	757	1,359	1,960	2,476	2,826	3,006
Per production worker . . . . .	\$1,000 . . . . .	39.8	56.1	99.2	158.1	203.0	245.5	258.0
End-of-year inventories . . . . .	Bil. dol. . . . .	84	108	188	307	333	380	(NA)
New capital expenditures <sup>9</sup> . . . . .	Bil. dol. . . . .	21.5	24.1	47.5	75.0	78.6	99.0	104.0
Gross book value of depreciable assets . . . . .	Bil. dol. . . . .	218	301	439	692	868	(NA)	(NA)
Machinery and equipment . . . . .	Bil. dol. . . . .	157	218	328	527	671	(NA)	(NA)
Assets per employee . . . . .	\$1,000 . . . . .	11.3	16.4	22.4	36.2	48.6	(NA)	(NA)
Ratios:								
Value added to shipments . . . . .	Ratio . . . . .	47.0	46.7	42.9	42.0	47.1	(NA)	(NA)
Inventories to shipments . . . . .	Ratio . . . . .	15.0	14.2	13.8	15.7	13.4	(NA)	(NA)
Payroll to value added . . . . .	Ratio . . . . .	50.3	49.1	45.2	46.1	40.8	(NA)	(NA)
MULTIUNIT COMPANIES								
Establishments . . . . .	1,000 . . . . .	51.7	70.2	81.2	81.7	80.9	(NA)	(NA)
Employees . . . . .	Million . . . . .	13.3	14.3	15.0	14.3	13.8	(NA)	(NA)
Production workers . . . . .	Million . . . . .	9.8	9.8	10.1	8.8	8.5	(NA)	(NA)
Payroll . . . . .	Bil. dol. . . . .	93.8	138.8	214.2	307.5	377.3	(NA)	(NA)
Wages, production workers . . . . .	Bil. dol. . . . .	60.9	81.9	124.9	159.1	191.8	(NA)	(NA)
Value added by manufacture . . . . .	Bil. dol. . . . .	206.4	286.1	485.0	678.4	953.6	(NA)	(NA)
New capital expenditures . . . . .	Bil. dol. . . . .	18.6	20.0	41.0	65.2	66.5	(NA)	(NA)
SINGLE-UNIT COMPANIES <sup>10</sup>								
Establishments . . . . .	1,000 . . . . .	254.0	250.5	278.7	276.3	288.0	(NA)	(NA)
Employees . . . . .	Million . . . . .	5.2	4.8	4.6	4.8	5.1	(NA)	(NA)
Payroll . . . . .	Bil. dol. . . . .	28.5	35.4	49.8	72.1	98.3	(NA)	(NA)
Value added by manufacture . . . . .	Bil. dol. . . . .	55.5	67.9	100.1	145.7	212.1	(NA)	(NA)

NA Not available. <sup>1</sup> Estimated data based on *Annual Survey of Manufactures*; see text, section 27. <sup>2</sup> Includes administrative and auxiliary units. <sup>3</sup> Excludes administrative offices and auxiliary units. <sup>4</sup> Includes forms of organization not shown separately. <sup>5</sup> Includes data for employees of manufacturing establishments engaged in distribution and construction work. <sup>6</sup> Data are based on pay periods ending nearest 15th of March, May, August, and November. <sup>7</sup> Adjusted value added; takes into account (a) value added by merchandising operations (that is, difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly), plus (b) net change in finished goods and work-in-process inventories between beginning and end of year. <sup>8</sup> Includes extensive and unmeasurable duplication from shipments between establishments in the same industry classification. <sup>9</sup> Includes plants under construction and not yet in operation. <sup>10</sup> Beginning 1967, includes data obtained from Federal administrative records.

Source: Except as noted, U.S. Bureau of the Census, *Census of Manufactures, 1967, 1972, 1977, 1982, 1987 and 1992 and Annual Survey of Manufactures*.

## No. 1246. Manufactures—Summary, by Industry: 1982, 1987, and 1992

[Data based on various editions of the *Standard Industrial Classification (SIC) Manual*, published by the Office of Management and Budget; see text, section 26. N.e.c.=Not elsewhere classified.  
See also *Historical Statistics, Colonial Times to 1970*, series P 58-67]

INDUSTRY	SIC code	1982				1987				1992				
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		Value of shipments (mil. dol.)	All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)		Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			
<b>All manufacturing establishments . . . .</b>	<b>(X)</b>	<b>358,061</b>	<b>19,094</b>	<b>379,627</b>	<b>1,960,206</b>	<b>368,897</b>	<b>18,950</b>	<b>475,651</b>	<b>2,475,901</b>	<b>18,253</b>	<b>560,485</b>	<b>11,654</b>	<b>1,428,707</b>	<b>3,006,275</b>
<b>Food and kindred products . . . . .</b>	<b>20</b>	<b>22,130</b>	<b>1,488</b>	<b>26,088</b>	<b>280,529</b>	<b>20,624</b>	<b>1,449</b>	<b>30,268</b>	<b>329,725</b>	<b>1,505</b>	<b>36,821</b>	<b>1,100</b>	<b>156,843</b>	<b>403,836</b>
Meat products . . . . .	201	3,623	318	4,993	67,602	3,267	341	5,701	77,002	400	7,542	342	18,950	93,466
Dairy products . . . . .	202	2,724	140	2,553	38,771	2,366	142	3,217	44,755	137	3,776	86	16,066	54,096
Preserved fruits and vegetables . . . . .	203	(NA)	(NA)	(NA)	(NA)	(NA)	209	3,784	36,343	212	4,713	176	22,004	45,192
Grain mill products . . . . .	204	2,745	108	2,197	31,386	2,610	102	2,704	36,737	108	3,395	74	21,183	49,169
Bakery products . . . . .	205	(NA)	(NA)	(NA)	(NA)	(NA)	217	4,761	23,677	216	5,610	134	17,932	28,629
Sugar and confectionery products . . . . .	206	1,033	96	1,661	15,576	1,094	90	1,991	18,887	91	2,403	72	10,951	22,718
Fats and oils . . . . .	207	724	39	774	16,752	595	30	702	15,881	30	812	21	3,806	19,340
Beverages . . . . .	208	2,584	194	4,244	38,801	2,214	161	4,521	47,327	145	4,822	75	29,665	56,983
Miscellaneous foods and kindred products . . . . .	209	3,941	158	2,300	23,959	3,716	158	2,887	29,116	166	3,748	122	16,888	34,244
<b>Tobacco products . . . . .</b>	<b>21</b>	<b>163</b>	<b>58</b>	<b>1,324</b>	<b>16,061</b>	<b>138</b>	<b>45</b>	<b>1,486</b>	<b>20,757</b>	<b>38</b>	<b>1,537</b>	<b>27</b>	<b>27,167</b>	<b>35,137</b>
Cigarettes . . . . .	211	14	42	1,094	12,127	11	32	1,486	17,372	25	1,205	18	24,802	29,746
Cigars . . . . .	212	60	5	59	254	20	3	36	192	3	67	2	171	275
Chewing and smoking tobacco . . . . .	213	29	3	52	665	29	3	77	1,114	3	92	2	1,213	1,608
Tobacco stemming and reddyng . . . . .	214	60	8	120	3,015	78	7	139	2,079	7	173	5	982	3,508
<b>Textile mill products . . . . .</b>	<b>22</b>	<b>6,630</b>	<b>717</b>	<b>9,046</b>	<b>47,515</b>	<b>6,412</b>	<b>672</b>	<b>11,410</b>	<b>62,786</b>	<b>615</b>	<b>12,352</b>	<b>527</b>	<b>29,862</b>	<b>70,694</b>
Broadwoven fabric mills, cotton . . . . .	221	269	77	965	3,972	301	72	1,260	5,508	56	1,148	50	2,484	5,907
Broadwoven fabric mills, manmade . . . . .	222	523	141	1,815	8,191	441	88	1,596	8,049	87	1,849	76	3,993	8,680
Broadwoven fabric mills, wool . . . . .	223	131	13	176	763	119	14	236	1,051	14	280	12	676	1,606
Narrow fabric mills . . . . .	224	281	18	216	852	277	19	296	1,136	17	325	14	720	1,319
Knitting mills . . . . .	225	(NA)	(NA)	(NA)	(NA)	2,130	203	2,988	13,531	194	3,357	169	8,030	17,053
Textile finishing, except wool . . . . .	226	753	58	834	4,972	971	56	1,036	7,042	51	1,153	42	2,779	7,057
Carpets and rugs . . . . .	227	505	42	603	5,808	477	53	1,039	9,795	49	1,084	39	3,491	9,812
Yarn and thread mills . . . . .	228	714	109	98	7,036	610	114	1,850	10,277	93	1,758	84	4,184	11,476
Miscellaneous textile goods . . . . .	229	(NA)	(NA)	(NA)	(NA)	1,086	53	1,109	6,398	54	1,399	41	3,506	7,784
<b>Apparel and other textile products . . . . .</b>	<b>23</b>	<b>24,391</b>	<b>1,189</b>	<b>12,129</b>	<b>53,388</b>	<b>22,872</b>	<b>1,081</b>	<b>13,904</b>	<b>64,243</b>	<b>986</b>	<b>15,367</b>	<b>824</b>	<b>36,357</b>	<b>71,617</b>
Men's and boys' suits and coats . . . . .	231	529	75	878	3,062	347	55	779	2,863	44	723	38	1,366	2,426
Men's and boys' furnishings . . . . .	232	2,544	299	2,837	12,727	2,195	280	3,246	15,441	263	3,680	230	9,874	17,926
Women's and misses' outerwear . . . . .	233	10,838	419	4,110	18,225	10,290	349	4,297	19,389	305	4,602	254	10,788	21,610
Women's and children's undergarments . . . . .	234	755	82	783	3,323	557	68	8,439	3,738	54	797	45	2,153	3,934

See footnotes at end of table.

## No. 1246. Manufactures—Summary, by Industry: 1982, 1987, and 1992—Continued

[See headnote, page 749]

INDUSTRY	SIC code	1982			1987			1992						
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)	
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)	Number <sup>1</sup> (1,000)	Payroll (mil. dol.)				
<b>Apparel, other textile products—Con.</b>														
Hats, caps, and millinery . . . . .	235	419	16	157	522	461	17	204	663	19	280	16	581	978
Girls' and children's outerwear . . . . .	236	968	71	671	2,711	834	72	826	3,753	54	780	44	1,642	3,144
Fur goods . . . . .	237	504	3	60	419	380	2	48	423	1	24	1	81	205
Miscellaneous apparel and accessories . . . . .	238	1,223	50	513	2,118	986	41	518	2,229	36	556	29	1,227	2,321
Miscellaneous fabricated textile products . . . . .	239	6,611	174	2,120	10,281	6,822	198	3,143	15,744	211	3,926	168	8,644	19,074
<b>Lumber and wood products . . . . .</b>	<b>24</b>	<b>32,984</b>	<b>576</b>	<b>8,445</b>	<b>42,935</b>	<b>33,982</b>	<b>698</b>	<b>12,707</b>	<b>69,747</b>	<b>658</b>	<b>13,916</b>	<b>542</b>	<b>33,352</b>	<b>81,798</b>
Logging . . . . .	241	11,658	81	1,208	8,274	11,952	86	1,518	10,938	84	1,697	70	5,113	8,773
Sawmills and planing mills . . . . .	242	7,403	158	2,306	11,132	6,696	180	3,297	19,220	169	3,584	144	8,847	23,210
Millwork, plywood, and structural members . . . . .	243	6,545	165	2,596	11,683	7,930	240	4,658	22,614	225	5,027	182	10,952	24,865
Wood containers . . . . .	244	2,250	36	391	1,635	2,216	37	483	2,069	40	639	33	1,315	2,922
Wood buildings and mobile homes . . . . .	245	1,163	60	880	4,955	1,077	65	1,215	6,575	56	1,230	44	2,511	6,634
Miscellaneous Wood Products . . . . .	249	3,965	77	1,064	5,255	4,104	90	1,536	8,330	85	1,740	69	4,615	10,324
<b>Furniture and fixtures<sup>2</sup> . . . . .</b>	<b>25</b>	<b>10,003</b>	<b>436</b>	<b>6,084</b>	<b>24,129</b>	<b>11,613</b>	<b>511</b>	<b>9,082</b>	<b>37,462</b>	<b>473</b>	<b>10,216</b>	<b>374</b>	<b>22,821</b>	<b>43,688</b>
Household furniture . . . . .	251	5,475	263	3,162	12,776	5,606	284	4,452	18,559	257	4,861	216	10,602	20,707
Office Furniture . . . . .	252	700	59	1,051	4,150	986	81	1,790	7,538	68	1,866	50	4,634	8,002
Public building and related furniture . . . . .	253	413	19	295	1,103	484	22	397	2,088	29	679	22	1,609	4,140
Partitions and fixtures . . . . .	254	2,148	60	1,025	3,710	2,455	74	1,552	5,537	74	1,813	54	3,617	6,569
Miscellaneous furniture and fixtures . . . . .	259	1,267	36	551	2,390	2,084	50	892	3,740	45	998	31	2,359	4,270
<b>Paper and allied products . . . . .</b>	<b>26</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>6,342</b>	<b>611</b>	<b>16,860</b>	<b>108,989</b>	<b>626</b>	<b>20,479</b>	<b>479</b>	<b>59,923</b>	<b>132,954</b>
Pulp mills . . . . .	261	43	17	468	3,110	39	14	535	4,314	16	688	12	2,549	5,457
Paper mills . . . . .	262	299	129	3,431	20,995	281	129	4,597	28,918	131	5,425	101	14,872	32,817
Paperboard mills . . . . .	263	222	56	1,502	9,531	199	52	1,859	13,730	52	2,135	39	8,187	16,126
Paperboard containers and boxes . . . . .	265	2,781	188	3,517	19,192	2,796	194	4,618	25,863	199	5,710	151	12,387	32,577
Miscellaneous converted paper products . . . . .	267	3,006	213	3,961	26,701	3,027	222	5,251	36,165	229	6,521	176	21,927	45,977
<b>Printing and publishing . . . . .</b>	<b>27</b>	<b>53,406</b>	<b>1,292</b>	<b>22,707</b>	<b>85,797</b>	<b>61,774</b>	<b>1,494</b>	<b>33,440</b>	<b>136,196</b>	<b>1,506</b>	<b>41,471</b>	<b>790</b>	<b>113,244</b>	<b>167,284</b>
Newspapers . . . . .	271	8,846	402	6,555	21,276	9,079	434	9,022	31,850	416	10,506	136	27,264	34,203
Periodicals . . . . .	272	3,328	94	1,986	11,478	4,017	110	2,983	17,329	117	4,076	216	15,763	21,976
Books . . . . .	273	2,811	112	2,090	10,132	2,856	114	2,821	15,876	135	4,242	58	14,717	21,854
Miscellaneous publishing . . . . .	274	2,057	45	706	2,871	2,376	70	1,513	7,810	66	1,741	24	8,535	11,000
Commercial printing . . . . .	275	(NA)	(NA)	(NA)	(NA)	36,103	553	12,301	44,786	570	15,357	409	31,963	56,415
Manifold business forms . . . . .	276	810	50	934	5,059	853	53	1,281	7,397	48	1,338	34	3,903	7,415
Greeting cards . . . . .	277	154	21	344	1,894	162	22	471	2,911	23	585	12	3,394	4,196
Blankbooks and bookbinding . . . . .	278	1,487	61	903	2,803	1,545	69	1,265	4,080	66	1,478	52	3,640	5,060
Printing trade services . . . . .	279	(NA)	(NA)	(NA)	(NA)	4,783	69	1,784	4,157	65	2,147	46	4,067	5,166

See footnotes at end of table.

INDUSTRY	SIC code	1982			1987			1992						
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		Value of shipments (mil. dol.)	All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)		Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			
<b>Chemicals and allied products . . . . .</b>	<b>28</b>	<b>11,901</b>	<b>873</b>	<b>20,836</b>	<b>170,737</b>	<b>12,109</b>	<b>814</b>	<b>25,016</b>	<b>229,546</b>	<b>850</b>	<b>32,503</b>	<b>479</b>	<b>165,135</b>	<b>305,761</b>
Industrial inorganic chemicals . . . . .	281	1,365	108	2,795	17,280	1,405	94	3,099	19,774	103	4,219	55	16,687	27,167
Plastics materials and synthetics . . . . .	282	606	141	3,451	28,428	680	123	4,013	40,851	128	5,111	86	21,270	48,535
Drugs . . . . .	283	1,281	166	3,966	24,695	1,356	172	5,304	39,263	196	7,859	93	48,736	67,969
Soap, cleaners, and toilet goods . . . . .	284	2,379	127	2,581	26,031	2,399	119	3,099	34,748	124	3,943	75	26,526	43,404
Paints and allied products . . . . .	285	1,441	54	1,158	9,162	1,431	55	1,492	12,702	51	1,710	26	7,153	14,970
Industrial organic chemicals . . . . .	286	969	144	4,005	38,157	961	126	4,541	51,158	125	5,519	73	26,193	64,525
Agricultural chemicals . . . . .	287	1,127	51	1,156	14,653	973	40	1,171	14,267	40	1,451	25	8,628	18,802
Miscellaneous chemical products . . . . .	289	2,733	82	1,725	12,330	2,904	85	2,298	16,782	83	2,690	48	9,942	20,389
<b>Petroleum and coal products . . . . .</b>	<b>29</b>	<b>2,322</b>	<b>152</b>	<b>4,339</b>	<b>208,919</b>	<b>2,254</b>	<b>116</b>	<b>3,996</b>	<b>130,414</b>	<b>114</b>	<b>4,966</b>	<b>74</b>	<b>23,797</b>	<b>149,961</b>
Petroleum refining . . . . .	291	(NA)	(NA)	(NA)	(NA)	331	75	2,845	118,186	75	3,637	48	19,104	136,265
Asphalt paving and roofing materials . . . . .	295	1,307	30	629	5,948	1,367	28	786	7,749	26	844	18	2,962	7,737
Miscellaneous petroleum and coal products . . . . .	299	582	14	312	3,614	556	13	365	4,479	14	486	8	1,731	5,958
<b>Rubber and misc. plastics products . . . . .</b>	<b>30</b>	<b>13,449</b>	<b>682</b>	<b>11,597</b>	<b>55,416</b>	<b>14,515</b>	<b>831</b>	<b>17,581</b>	<b>86,634</b>	<b>907</b>	<b>23,144</b>	<b>697</b>	<b>58,477</b>	<b>113,544</b>
Tires and inner tubes . . . . .	301	164	70	1,734	9,340	164	65	2,070	10,427	65	2,498	53	6,478	11,824
Rubber and plastics footwear . . . . .	302	65	18	197	706	66	11	153	557	14	216	11	468	907
Hose and belting and plastics and packing . . . . .	305	635	55	999	3,612	693	52	1,159	4,648	52	1,416	38	3,316	5,994
Fabricated rubber products, n.e.c . . . . .	306	(NA)	(NA)	(NA)	(NA)	1,573	104	2,245	9,227	106	2,607	79	5,919	11,363
Miscellaneous plastics products, n.e.c. . . . .	308	(NA)	(NA)	(NA)	(NA)	12,019	599	11,955	61,775	671	16,407	515	42,296	83,456
<b>Leather and leather products . . . . .</b>	<b>31</b>	<b>2,735</b>	<b>200</b>	<b>2,219</b>	<b>9,719</b>	<b>2,193</b>	<b>129</b>	<b>1,831</b>	<b>9,082</b>	<b>101</b>	<b>1,795</b>	<b>83</b>	<b>4,517</b>	<b>9,677</b>
Leather tanning and finishing . . . . .	311	384	20	311	1,753	344	15	292	2,219	17	420	13	886	2,910
Footwear cut stock . . . . .	313	161	7	81	368	128	5	70	324	4	63	3	154	323
Footwear, except rubber . . . . .	314	751	121	1,250	5,269	479	71	913	4,073	49	762	41	2,072	3,907
Leather gloves and mittens . . . . .	315	96	4	37	178	77	3	34	185	3	36	2	69	137
Luggage . . . . .	316	292	16	194	789	241	11	196	929	10	182	7	495	944
Handbags and personal leather goods . . . . .	317	636	25	271	1,035	529	17	232	942	11	201	9	547	890
Leather goods, n.e.c . . . . .	319	415	7	76	327	395	7	95	411	8	131	6	294	565

See footnotes at end of table.

No. 1246. Manufactures—Summary, by Industry: 1982, 1987, and 1992—Continued

[See headnote, page 749]

INDUSTRY	SIC code	1982			1987			1992						
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		Value of shipments (mil. dol.)	All employees	Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)	
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)						Number <sup>1</sup> (1,000)
<b>Stone, clay, and glass products . . . . .</b>	<b>32</b>	<b>16,545</b>	<b>532</b>	<b>10,097</b>	<b>45,181</b>	<b>16,166</b>	<b>524</b>	<b>12,349</b>	<b>61,477</b>	<b>470</b>	<b>13,128</b>	<b>357</b>	<b>34,558</b>	<b>62,479</b>
Flat glass . . . . .	321	69	15	414	1,666	81	15	507	2,549	12	440	10	1,315	2,082
Glass and glassware, pressed or blown . . . . .	322	459	97	2,032	7,941	522	77	1,959	8,339	66	2,080	56	5,922	9,055
Products of purchased glass . . . . .	323	1,337	41	696	2,977	1,432	51	1,060	5,429	56	1,387	43	3,809	6,955
Cement, hydraulic . . . . .	324	237	25	636	3,542	215	19	599	4,335	17	592	13	2,136	4,035
Structural clay products . . . . .	325	628	30	491	1,868	598	35	689	2,915	31	737	24	1,698	2,864
Pottery and related products . . . . .	326	910	37	598	1,762	1,006	38	762	2,416	36	842	28	1,954	2,752
Concrete, gypsum, and plaster products . . . . .	327	9,933	167	2,995	14,947	9,814	203	4,632	24,427	174	4,748	126	10,983	23,053
Cut stone and stone products . . . . .	328	711	11	156	555	745	13	243	841	12	283	9	607	1,007
Miscellaneous nonmetallic mineral products . . . . .	329	(NA)	(NA)	(NA)	(NA)	1,753	73	1,898	10,226	66	2,018	49	6,134	10,677
<b>Primary metal industries <sup>2</sup> . . . . .</b>	<b>33</b>	<b>7,061</b>	<b>854</b>	<b>20,603</b>	<b>104,667</b>	<b>6,771</b>	<b>701</b>	<b>19,777</b>	<b>120,248</b>	<b>663</b>	<b>22,187</b>	<b>508</b>	<b>51,816</b>	<b>138,333</b>
Blast furnace and basic steel products . . . . .	331	1,068	366	267	46,720	1,241	253	8,166	51,815	241	9,243	184	22,290	58,713
Iron and steel foundries . . . . .	332	1,438	157	3,113	9,642	1,231	130	3,426	10,628	123	3,754	100	6,916	11,914
Primary nonferrous metals . . . . .	333	161	44	1,307	11,321	169	32	996	10,869	34	1,284	25	3,275	14,142
Secondary nonferrous metals . . . . .	334	458	19	402	4,852	397	13	312	4,431	14	414	10	1,272	5,921
Nonferrous rolling and drawing . . . . .	335	1,022	167	3,636	25,463	1,066	163	4,298	33,282	148	4,640	109	12,124	39,906
Nonferrous foundries (castings) . . . . .	336	(NA)	(NA)	(NA)	(NA)	1,687	80	1,805	6,315	74	1,923	59	3,864	6,923
<b>Fabricated metal products . . . . .</b>	<b>34</b>	<b>35,560</b>	<b>1,460</b>	<b>28,283</b>	<b>119,444</b>	<b>36,105</b>	<b>1,458</b>	<b>35,000</b>	<b>147,366</b>	<b>1,370</b>	<b>39,166</b>	<b>999</b>	<b>83,871</b>	<b>167,015</b>
Metal cans and shipping containers . . . . .	341	566	59	1,533	12,172	538	48	1,527	12,114	40	1,463	33	3,725	13,247
Cutlery, handtools, and hardware . . . . .	342	2,238	141	2,585	10,082	2,327	145	3,389	13,481	134	3,633	99	8,959	15,338
Plumbing and heating, except electric . . . . .	343	1,177	48	821	4,003	828	46	1,005	5,283	42	1,150	29	3,108	5,840
Fabricated structural metal products . . . . .	344	12,681	422	7,897	34,904	12,579	407	9,042	40,416	392	10,451	277	21,403	45,252
Screw machine products, bolts, etc. . . . .	345	2,690	94	1,727	5,834	2,569	95	2,270	7,890	90	2,619	68	5,268	9,013
Metal forgings and stampings . . . . .	346	4,019	236	5,110	20,057	4,062	255	7,235	28,410	234	7,738	185	14,929	30,668
Metal services, n.e.c. . . . .	347	5,070	97	1,518	5,125	5,251	113	2,167	7,790	109	2,669	84	5,634	10,042
Ordnance and accessories, n.e.c. . . . .	348	349	79	1,780	4,993	374	88	2,458	7,644	65	2,251	38	4,671	6,996
Miscellaneous fabricated metal products . . . . .	349	6,770	284	5,312	22,274	7,577	262	5,906	24,340	264	7,193	186	16,175	30,620
<b>Industrial machinery and equipment . . . . .</b>	<b>35</b>	<b>52,912</b>	<b>2,189</b>	<b>46,911</b>	<b>187,896</b>	<b>52,135</b>	<b>1,844</b>	<b>50,553</b>	<b>217,670</b>	<b>1,742</b>	<b>57,253</b>	<b>1,088</b>	<b>132,144</b>	<b>258,273</b>
Engines and turbines . . . . .	351	341	112	2,850	13,040	356	87	2,906	14,570	83	3,145	52	7,506	17,402
Farm and garden machinery . . . . .	352	2,078	114	2,386	13,018	1,804	82	1,917	11,474	87	2,374	63	7,377	14,897
Construction and related machinery . . . . .	353	3,952	326	7,332	32,038	3,467	188	5,272	24,622	181	5,810	111	12,668	27,675
Metalworking machinery . . . . .	354	(NA)	(NA)	(NA)	(NA)	11,470	268	7,301	22,004	256	8,604	179	16,508	26,589
Special industry machinery . . . . .	355	(NA)	(NA)	(NA)	(NA)	4,550	169	4,588	17,096	160	5,446	90	11,514	21,263
General industrial machinery . . . . .	356	(NA)	(NA)	(NA)	(NA)	3,929	240	6,203	24,121	247	7,798	155	17,954	31,686
Computer and office equipment . . . . .	357	(NA)	(NA)	(NA)	(NA)	2,134	328	10,668	60,627	249	10,062	88	28,711	66,149
Refrigeration and service machinery . . . . .	358	1,937	172	3,344	16,450	2,129	190	4,752	23,235	177	5,230	124	13,374	27,253
Industrial machinery, n.e.c. . . . .	359	(NA)	(NA)	(NA)	(NA)	22,296	292	6,946	19,921	303	8,785	226	16,532	25,359

See footnotes at end of table.



INDUSTRY	SIC code	1982				1987				1992				
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		Value of shipments (mil. dol.)	All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)		Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			
<b>Electronics; other electric equip.. . . . .</b>	<b>36</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>15,962</b>	<b>1,565</b>	<b>38,738</b>	<b>171,286</b>	<b>1,444</b>	<b>44,504</b>	<b>914</b>	<b>121,950</b>	<b>217,906</b>
Electric distribution equipment. . . . .	361	(NA)	(NA)	(NA)	(NA)	766	77	1,791	8,197	68	1,932	48	5,245	9,620
Electrical industrial apparatus . . . . .	362	(NA)	(NA)	(NA)	(NA)	2,213	166	3,882	15,266	157	4,379	106	10,427	18,949
Household appliances . . . . .	363	(NA)	(NA)	(NA)	(NA)	480	117	2,642	16,498	103	2,588	83	7,817	18,480
Electric lighting and wiring equipment . . . . .	364	1,993	159	2,718	12,048	1,986	167	3,732	18,004	148	3,989	108	11,186	19,655
Household audio and video equipment . . . . .	365	(NA)	(NA)	(NA)	(NA)	854	44	850	7,833	48	1,140	35	3,541	10,766
Communications equipment . . . . .	366	(NA)	(NA)	(NA)	(NA)	1,437	260	7,537	34,001	241	9,247	115	26,993	43,557
Electronic components and accessories . . . . .	367	(NA)	(NA)	(NA)	(NA)	5,911	546	13,623	50,258	530	16,776	317	45,297	74,604
Misc. electrical equipment and supplies . . . . .	369	(NA)	(NA)	(NA)	(NA)	2,315	188	4,682	21,230	150	4,454	101	11,445	22,275
<b>Transportation equipment. . . . .</b>	<b>37</b>	<b>9,443</b>	<b>1,596</b>	<b>40,812</b>	<b>201,346</b>	<b>10,500</b>	<b>1,817</b>	<b>58,790</b>	<b>332,936</b>	<b>1,646</b>	<b>62,584</b>	<b>1,079</b>	<b>161,058</b>	<b>401,214</b>
Motor vehicles and equipment. . . . .	371	3,867	616	15,393	112,270	4,422	751	23,910	205,923	703	26,171	564	80,525	240,110
Aircraft and parts . . . . .	372	1,471	539	14,718	52,027	1,618	596	20,590	77,304	546	22,481	280	49,279	104,730
Ship and boat building and repairing . . . . .	373	2,566	205	4,326	13,326	2,766	177	4,266	13,857	164	4,659	122	8,594	15,330
Railroad equipment. . . . .	374	200	35	790	3,457	173	22	631	2,471	28	886	20	1,956	4,574
Motorcycles, bicycles, and parts . . . . .	375	273	13	225	1,341	246	7	158	1,063	12	315	9	779	1,967
Guided missiles, space vehicles, parts . . . . .	376	105	146	4,481	14,398	156	214	8,114	26,285	149	6,903	52	16,886	27,302
Miscellaneous transportation equipment . . . . .	379	961	43	879	4,528	1,119	49	1,122	6,033	45	1,168	32	3,040	7,203
<b>Instruments and related products . . . . .</b>	<b>38</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>10,326</b>	<b>982</b>	<b>28,778</b>	<b>107,325</b>	<b>910</b>	<b>33,240</b>	<b>461</b>	<b>89,806</b>	<b>135,479</b>
Search and navigation equipment . . . . .	381	(NA)	(NA)	(NA)	(NA)	1,137	369	12,368	36,267	260	11,318	106	25,213	36,185
Measuring and controlling devices . . . . .	382	(NA)	(NA)	(NA)	(NA)	4,240	285	7,807	26,042	273	9,501	137	21,394	34,173
Medical instruments and supplies . . . . .	384	2,973	189	3,559	15,133	3,443	204	5,027	22,865	263	8,489	154	25,957	39,365
Ophthalmic goods. . . . .	385	410	26	409	1,273	494	24	475	1,689	29	693	19	1,905	2,633
Photographic equipment and supplies . . . . .	386	795	119	3,193	17,038	791	88	2,878	19,241	77	3,062	39	14,843	22,093
Watches, clocks, watchcases and parts . . . . .	387	237	17	248	1,188	221	12	223	1,221	8	176	6	493	1,032
<b>Misc. manufacturing industries. . . . .</b>	<b>39</b>	<b>15,871</b>	<b>383</b>	<b>5,647</b>	<b>26,891</b>	<b>16,544</b>	<b>374</b>	<b>6,884</b>	<b>32,012</b>	<b>365</b>	<b>8,411</b>	<b>254</b>	<b>22,010</b>	<b>39,626</b>
Jewelry, silverware, and plated ware . . . . .	391	2,882	50	770	4,379	2,978	50	941	5,554	46	1,071	31	2,479	5,742
Musical instruments . . . . .	393	452	18	258	916	425	12	218	814	12	273	9	595	988
Toys and sporting goods . . . . .	394	2,570	99	1,389	8,256	2,711	89	1,512	8,798	96	2,088	70	6,768	12,012
Pens, pencils, office, and art supplies. . . . .	395	1,026	32	485	2,372	1,013	29	540	2,536	30	668	21	2,003	3,415
Costume jewelry and notions . . . . .	396	(NA)	(NA)	(NA)	(NA)	1,020	32	498	2,062	28	557	19	1,371	2,318
Miscellaneous manufactures. . . . .	399	(NA)	(NA)	(NA)	(NA)	8,397	163	3,174	12,248	154	3,753	104	8,794	15,152
Administrative and auxiliary . . . . .	(X)	9,676	1,276	38,220	-	9,480	1,234	47,202	-	1,263	65,448	(X)	(X)	(X)

Manufactures

- Represents zero. NA Not available. X Not applicable. <sup>1</sup> Represents the average of production workers plus all other employees for the payroll period ended nearest the 15th of March. <sup>2</sup> Includes other industries not shown separately. <sup>3</sup> Manufacturing concerns often reported separately for central offices or auxiliaries which serve the manufacturing establishment of a company, rather than the general public. Separate reports were obtained from such units if at a different location or if they serviced more than one establishment.

Source: U.S. Bureau of the Census, 1992 Census of Manufactures and Annual Survey of Manufactures.

### No. 1247. Manufactures—Summary, by Industry; Selected Based on Value Added: 1982, 1987, and 1992

[Data based on various editions of the *Standard Industrial Classification (SIC) Manual*, published by the Office of Management and Budget; see text, section 26. N.e.c.=Not elsewhere classified.  
See also *Historical Statistics, Colonial Times to 1970*, series P 58-67]

INDUSTRY	SIC code	1982			1987			1992						
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)	
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)	Number <sup>1</sup> (1,000)	Payroll (mil. dol.)				
Meat packing plants	2011	1,780	134.4	2,549	44,854	1,434	113.2	2,141	44,991	120.6	2,423	103.7	6,852	49,679
Sausages and other prepared meats	2013	1,311	65.5	1,206	12,278	1,344	79.1	1,619	16,623	85.0	2,027	65.7	5,551	20,043
Poultry slaughtering and processing	2015	532	117.7	1,237	10,471	463	147.7	1,919	14,912	193.5	3,092	172.5	6,547	23,744
Fluid milk	2026	1,190	78.2	1,469	18,736	946	72.4	1,681	20,591	63.4	1,844	32.5	5,983	21,920
Canned fruits and vegetables	2033	715	70.5	1,040	9,283	647	65.6	1,163	11,890	63.9	1,475	53.4	6,972	14,876
Frozen specialties, n.e.c.	2038	(NA)	(NA)	(NA)	(NA)	288	37.5	669.1	5624.8	46.7	971	38.3	4,100	7,838
Cereal breakfast foods	2043	52	15.6	435	4,132	53	16.0	599	6,566	16.1	745	13.1	7,338	9,799
Bread, cake, and related products	2051	2,305	170.7	3,254	13,143	2,357	161.6	3,556	16,202	155.0	4,062	88.2	11,431	18,121
Cookies and crackers	2052	358	45.6	797	4,665	380	45.4	1,010	6,309	47.2	1,250	35.1	5,542	8,755
Candy and other confectionery products	2064	(NA)	(NA)	(NA)	(NA)	685	45.8	900	6,980	51.6	1,265	41.1	6,350	10,219
Malt beverages	2082	109	43.0	1,308	11,183	134	31.9	1,355	13,619	34.5	1,567	25.1	10,600	17,328
Bottled and canned soft drinks	2086	1,626	113.8	2,146	16,808	1,190	95.6	2,277	22,006	77.1	2,163	30.4	10,017	25,485
Flavoring extracts and syrups, n.e.c.	2087	(NA)	11.6	237	4,237	280	9.1	258	4,665	11.4	379	6.6	4,470	6,196
Food preparations, n.e.c.	2099	(NA)	(NA)	(NA)	(NA)	1,658	57.9	1,110	9,787	62.5	1,442	44.6	6,245	12,247
Cigarettes	2111	14	41.5	1,094	12,127	12	32.0	1,234	17,372	25.4	1,205	18.1	24,802	29,746
Logging	2411	11,658	80.8	1,208	8,274	11,936	85.7	1,516	10,880	83.8	1,697	69.5	5,113	13,844
Sawmills and planing mills, general	2421	6,316	131.9	2,020	10,065	5,742	148.2	2,817	17,357	138.6	3,053	118.3	7,795	21,045
Wood household furniture	2511	2,607	125.6	1,403	5,057	2,948	135.8	2,017	7,980	121.2	2,746	105.4	4,742	8,762
Paper mills	2621	299	129.0	3,431	20,995	282	129.1	4,597	28,916	130.7	5,425	100.5	14,872	32,817
Paperboard mills	2631	222	55.6	1,502	9,531	205	52.3	1,859	13,730	51.5	2,135	39.3	8,187	16,126
Corrugated and solid fiber boxes	2653	1,492	94.4	1,862	10,558	1,601	105.8	2,610	16,107	111.0	3,247	80.2	6,687	19,681
Sanitary paper products	2676	138	36.7	863	9,086	133	38.4	1,155	11,698	40.5	1,451	32.7	8,038	15,468
Newspapers	2711	8,846	401.5	6,555	21,276	9,091	434.6	9,025	31,849	415.8	10,506	135.5	27,264	34,203
Periodicals	2721	3,328	94.0	1,986	11,478	4,020	110.0	2,983	17,329	106.9	4,076	20.5	15,763	21,976
Book publishing	2731	2,130	67.1	1,327	7,740	2,298	70.1	1,860	12,620	83.8	2,869	19.0	11,862	17,126
Miscellaneous publishing	2741	2,057	45.3	706	2,871	2,369	69.4	1,513	7,810	66.4	1,742	24.2	8,535	11,000
Commercial printing, lithographic	2752	17,842	311.9	5,746	19,442	24,980	403.0	9,132	32,698	441.1	12,043	317.5	24,885	43,651
Commercial printing, n.e.c.	2759	(NA)	(NA)	(NA)	(NA)	10,796	126.2	2,490	8,973	106.9	2,587	73.6	5,382	9,194
Manifold business forms	2761	810	49.5	934	5,059	853	53.2	1,276	7,359	47.7	1,338	33.5	3,903	7,415
Industrial inorganic chemicals, n.e.c.	2819	645	81.7	2,134	12,060	662	72.2	2,425	13,212	785.0	3,249	39.4	11,171	17,979
Plastics materials and resins	2821	440	54.7	1,434	15,769	480	56.3	2,006	26,246	60.9	2,677	36.3	12,971	31,478
Organic fibers, noncellulosic	2824	70	60.2	1,382	8,263	72	45.7	1,347	10,112	44.4	1,545	33.9	5,613	11,114
Pharmaceutical preparations	2834	683	124.4	3,053	18,998	732	131.6	4,168	32,094	125.0	4,995	63.2	37,435	50,745
Soap and other detergents	2841	723	35.4	827	9,167	764	31.7	956	11,559	33.0	1,177	20.0	7,858	14,888
Polishes and sanitation goods	2842	(NA)	23.0	444	4,614	726	20.6	500	5,594	22.0	663	13.4	4,383	6,892
Toilet preparations	2844	639	60.4	1,102	10,183	694	58.5	1,353	14,593	60.5	1,782	37.5	13,109	18,751
Paints and allied products, n.e.c.	2851	1,441	54.1	1,158	9,162	1,426	55.2	1,491	12,701	51.1	1,710	25.6	7,153	14,970
Industrial organic chemicals, n.e.c.	2869	(NA)	(NA)	(NA)	(NA)	699	100.3	3,696	42,189	100.3	4,517	57.4	22,489	54,222
Agricultural chemicals, n.e.c.	2879	330	16.5	404	5,436	277	16.1	518	6,300	16.8	669	9.6	5,513	9,129
Chemical preparations, n.e.c.	2899	1,443	39.7	837	6,344	1,529	37.9	1,021	8,024	36.4	1,193	20.9	5,003	9,780

See footnotes at end of table.

INDUSTRY	SIC code	1982				1987				1992				
		Establishments	All employees		Value of shipments (mil. dol.)	Establishments	All employees		Value of shipments (mil. dol.)	All employees		Production workers	Value added by manufacture (mil. dol.)	Value of shipments (mil. dol.)
			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			Number <sup>1</sup> (1,000)	Payroll (mil. dol.)		Number <sup>1</sup> (1,000)	Payroll (mil. dol.)			
Petroleum refining . . . . .	2911	(NA)	(NA)	(NA)	(NA)	309	74.6	2,846	118,216	74.8	3,637	47.9	19,104	136,265
Tires and inner tubes . . . . .	3011	164	70.3	1,734	9,340	163	65.4	2,070	10,427	64.6	2,498	52.8	6,478	11,824
Unsupported plastics film and sheet . . . . .	3081	(NA)	(NA)	(NA)	(NA)	594	48.4	1,256	8,140	57.2	1,763	40.6	5,375	11,607
Plastics products, n.e.c. . . . .	3089	(NA)	(NA)	(NA)	(NA)	8,571	384.7	7,286	33,774	23.0	667	15.3	1,777	4,331
Ready-mixed concrete . . . . .	3273	5,379	81.4	1,475	8,163	5,321	96.9	2,289	12,975	83.1	2,313	61.2	5,389	12,089
Blast furnaces and steel mills . . . . .	3312	301	295.8	8,678	36,824	342	188.9	6,451	38,663	171.7	7,070	132.2	16,633	42,278
Nonferrous wire drawing and insulating . . . . .	3357	440	67.6	1,270	8,217	487	64.9	1,504	10,827	60.8	1,729	44.9	4,764	13,021
Hardware, n.e.c. . . . .	3429	1,185	80.1	1,521	5,741	1,240	85.6	2,056	8,175	75.1	2,057	56.0	4,783	8,754
Fabricated structural metal . . . . .	3441	2,740	103.6	1,990	8,853	2,454	80.9	1,881	8,667	72.3	1,970	51.0	3,971	8,940
Fabricated plate work (boiler shops) . . . . .	3443	1,929	102.9	2,180	8,225	1,740	74.6	1,842	6,795	79.0	2,339	55.9	4,868	9,085
Sheet metal work . . . . .	3444	3,795	81.1	1,495	6,854	4,297	100.3	2,237	9,700	104.0	2,843	75.4	5,725	11,467
Automotive stampings . . . . .	3465	668	90.5	2,293	8,777	713	119.8	3,977	15,252	104.3	4,069	86.4	7,184	15,711
Metal stampings, n.e.c. . . . .	3469	2,843	100.4	1,783	6,438	2,815	95.5	2,132	8,331	93.2	2,501	71.1	5,211	9,735
Internal combustion engines, n.e.c. . . . .	3519	253	79.6	1,979	9,363	278	64.0	2,043	11,123	56.9	2,082	38.1	4,900	11,945
Farm machinery and equipment . . . . .	3523	1,903	96.1	2,067	10,743	1,634	57.0	1,416	6,880	62.4	1,807	43.2	5,226	9,727
Construction machinery . . . . .	3531	939	115.5	2,653	11,658	955	81.2	2,429	12,773	77.9	2,596	50.2	5,874	13,603
Special dies, tools, jigs, and fixtures . . . . .	3544	7,255	1.0	2,293	5,375	7,317	114.4	3,164	7,550	111.6	3,904	85.4	6,656	9,334
Special industry machinery, n.e.c. . . . .	3559	(NA)	(NA)	(NA)	(NA)	2,531	83.3	2,286	8,275	81.8	2,902	43.9	6,225	11,289
Electronic computers . . . . .	3571	(NA)	(NA)	(NA)	(NA)	974	151.9	4,953	33,627	109.5	4,805	30.6	15,691	37,765
Refrigeration and heating equipment . . . . .	3585	865	120.5	2,393	12,390	892	133.3	3,355	17,027	120.7	3,594	89.1	9,350	19,677
Industrial machinery, n.e.c. . . . .	3599	(NA)	(NA)	(NA)	(NA)	21,545	228.4	5,119	13,692	247.7	7,006	188.5	12,845	19,017
Motors and generators . . . . .	3621	472	84.2	1,546	6,060	462	74.6	1,664	6,753	67.8	1,763	51.9	4,169	8,032
Relays and industrial controls . . . . .	3625	(NA)	(NA)	(NA)	(NA)	1,168	66.6	1,631	6,101	61.0	1,831	34.9	4,475	7,529
Telephone and telegraph apparatus . . . . .	3661	(NA)	(NA)	(NA)	(NA)	469	112.3	3,178	17,583	93.3	3,810	45.7	12,964	21,117
Radio and TV communications equip. . . . .	3663	(NA)	(NA)	(NA)	(NA)	655	126.0	3,776	14,229	124.4	4,780	58.8	12,270	19,510
Semiconductors and related devices . . . . .	3674	766	166.5	3,785	12,430	853	184.6	5,495	19,795	172.2	6,893	84.8	23,296	33,178
Electronic components, n.e.c. . . . .	3679	(NA)	(NA)	(NA)	(NA)	2,900	162.6	3,891	15,439	180.4	5,120	108.1	11,775	23,524
Motor vehicles and car bodies . . . . .	3711	355	240.1	6,822	70,740	413	284.4	10,376	133,346	220.3	10,162	186.3	44,632	152,152
Motor vehicle parts and accessories . . . . .	3714	2,420	321.4	7,614	36,293	2,807	389.1	11,947	62,007	406.3	14,174	318.7	32,262	76,761
Aircraft . . . . .	3721	165	275.1	7,744	28,024	155	268.2	9,680	39,093	264.7	11,495	122.1	25,173	63,134
Aircraft engines and engine parts . . . . .	3724	340	130.7	3,544	13,809	453	139.6	4,814	20,262	116.7	4,851	64.2	11,384	21,870
Aircraft parts and equipment, n.e.c. . . . .	3728	966	132.8	3,429	10,193	1,013	187.7	6,088	17,923	164.7	6,134	93.3	12,723	19,726
Ship building and repairing . . . . .	3731	689	166.7	3,738	10,967	590	120.2	3,218	8,504	118.7	3,636	87.4	6,566	10,645
Guided missiles and space vehicles . . . . .	3761	29	99.6	3,159	10,219	40	166.7	6,415	21,566	91.7	4,315	29.3	11,855	18,219
Search and navigation equipment . . . . .	3812	(NA)	(NA)	(NA)	(NA)	1,084	369.4	12,373	36,267	260.0	11,318	105.7	25,213	36,185
Instruments to measure electricity . . . . .	3825	749	89.7	1,888	6,094	930	85.2	2,477	7,703	68.4	2,536	32.0	5,694	8,828
Surgical and medical instruments . . . . .	3841	859	56.9	1,000	4,085	1,136	73.1	1,786	7,780	98.6	3,106	58.7	9,428	13,428
Surgical appliances and supplies . . . . .	3842	1,367	68.8	1,211	5,667	1,500	78.5	1,786	8,533	96.5	2,855	61.4	8,893	13,789
Photographic equipment and supplies . . . . .	3861	795	119.3	3,193	17,038	787	88.0	2,878	19,241	77.2	3,062	39.2	14,843	22,093

NA Not available. <sup>1</sup> Represents the average of production workers plus all other employees for the payroll period ended nearest the 15th of the month.

Source: U.S. Bureau of the Census, 1987 Census of Manufactures and Annual Survey of Manufactures.

## No. 1248. Manufactures Summary: 1982 and 1987

[Sum of State totals may not add to U.S. total because U.S. and State figures were independently derived]

REGION, DIVISION AND STATE	1982				1987				
	Establish- ments <sup>1</sup>	All employees <sup>2</sup>		Value of ship- ments <sup>3</sup> (mil. dol.)	Establish- ments <sup>1</sup>	All employees <sup>2</sup>		Value added by manu- facture <sup>4</sup> (mil. dol.)	Value of ship- ments <sup>3</sup> (mil. dol.)
		Number (1,000)	Payroll (mil. dol.)			Number (1,000)	Payroll (mil. dol.)		
<b>U.S.</b> . . . . .	<b>358,061</b>	<b>19,094</b>	<b>379,627</b>	<b>1,960,206</b>	<b>368,897</b>	<b>18,950</b>	<b>475,651</b>	<b>1,165,917</b>	<b>2,475,902</b>
<b>Northeast</b> . . . . .	<b>91,102</b>	<b>4,798</b>	<b>95,919</b>	<b>400,767</b>	<b>88,287</b>	<b>4,357</b>	<b>112,222</b>	<b>259,074</b>	<b>483,748</b>
<b>N.E.</b> . . . . .	<b>25,659</b>	<b>1,445</b>	<b>27,603</b>	<b>105,938</b>	<b>26,393</b>	<b>1,350</b>	<b>34,455</b>	<b>78,908</b>	<b>136,989</b>
ME . . . . .	2,009	110	1,775	8,649	2,172	102	2,192	5,271	10,662
NH . . . . .	1,981	107	1,792	7,636	2,328	108	2,509	8,189	12,214
VT . . . . .	1,104	47	863	3,730	1,262	49	1,140	2,543	4,753
MA . . . . .	11,017	643	12,353	48,204	11,006	591	15,211	35,770	62,794
RI . . . . .	2,855	114	1,760	7,652	2,878	112	2,292	4,788	9,166
CT . . . . .	6,693	424	9,060	30,067	6,747	389	11,111	22,349	37,400
<b>M.A.</b> . . . . .	<b>65,443</b>	<b>3,353</b>	<b>68,316</b>	<b>294,829</b>	<b>61,894</b>	<b>3,007</b>	<b>77,767</b>	<b>180,165</b>	<b>346,759</b>
NY . . . . .	32,651	1,419	29,156	121,469	29,608	1,279	33,916	80,033	145,657
NJ . . . . .	15,126	754	15,845	70,420	14,442	691	18,550	42,527	82,451
PA . . . . .	17,666	1,180	23,315	102,940	17,844	1,038	25,302	57,605	118,651
<b>Midwest</b> . . . . .	<b>91,318</b>	<b>5,609</b>	<b>117,830</b>	<b>596,245</b>	<b>94,269</b>	<b>5,508</b>	<b>148,994</b>	<b>351,139</b>	<b>787,123</b>
<b>E.N.C.</b> . . . . .	<b>67,378</b>	<b>4,337</b>	<b>92,400</b>	<b>440,702</b>	<b>69,756</b>	<b>4,186</b>	<b>116,148</b>	<b>266,248</b>	<b>590,487</b>
OH . . . . .	16,960	1,102	24,740	112,278	17,544	1,100	30,765	71,707	158,560
IN . . . . .	7,960	585	12,559	63,332	8,641	602	15,757	39,279	83,788
IL . . . . .	18,618	1,069	22,681	112,929	18,404	990	26,235	63,350	132,204
MI . . . . .	15,158	884	22,223	99,715	16,010	980	30,628	60,259	146,339
WI . . . . .	8,682	497	10,197	52,448	9,157	514	12,763	31,653	69,596
<b>W.N.C.</b> . . . . .	<b>23,940</b>	<b>1,272</b>	<b>25,430</b>	<b>155,543</b>	<b>24,513</b>	<b>1,322</b>	<b>32,846</b>	<b>84,891</b>	<b>196,637</b>
MN . . . . .	6,775	350	7,423	35,321	7,112	374	10,142	23,152	47,604
IA . . . . .	3,598	213	4,403	31,397	3,569	206	4,971	14,469	35,409
MO . . . . .	7,069	406	8,013	41,459	7,290	419	10,390	25,917	59,889
ND . . . . .	587	15	246	2,465	627	15	310	979	2,574
SD . . . . .	748	25	398	3,005	764	28	498	1,476	3,859
NE . . . . .	1,928	92	1,624	15,143	1,876	91	1,938	5,819	16,076
KS . . . . .	3,235	171	3,323	26,753	3,275	189	4,597	12,909	31,056
<b>South</b> . . . . .	<b>99,304</b>	<b>5,819</b>	<b>101,293</b>	<b>647,918</b>	<b>104,500</b>	<b>5,839</b>	<b>128,278</b>	<b>354,380</b>	<b>800,875</b>
<b>S.A.</b> . . . . .	<b>48,855</b>	<b>2,930</b>	<b>48,588</b>	<b>256,625</b>	<b>53,478</b>	<b>3,104</b>	<b>66,893</b>	<b>179,075</b>	<b>373,181</b>
DE . . . . .	632	68	1,743	8,383	673	67	2,091	3,866	10,730
MD . . . . .	3,883	234	4,859	21,282	4,244	230	5,956	14,020	28,009
DC . . . . .	514	17	394	1,537	486	17	494	1,525	2,128
VA . . . . .	5,568	391	6,649	36,803	6,137	429	9,740	26,857	51,902
WV . . . . .	1,662	96	2,007	9,869	1,619	84	2,108	5,404	11,561
NC . . . . .	10,133	799	11,717	64,176	10,995	842	16,293	47,007	95,317
SC . . . . .	4,206	368	5,540	27,836	4,534	366	7,324	19,112	41,212
GA . . . . .	8,534	503	7,906	48,056	9,187	570	11,933	33,708	75,709
FL . . . . .	13,723	454	7,773	38,683	15,603	499	10,954	27,574	56,613
<b>E.S.C.</b> . . . . .	<b>18,573</b>	<b>1,241</b>	<b>20,132</b>	<b>119,698</b>	<b>19,718</b>	<b>1,303</b>	<b>26,524</b>	<b>74,296</b>	<b>164,862</b>
KY . . . . .	3,502	247	4,639	29,639	3,693	252	5,865	18,092	41,827
TN . . . . .	6,417	462	7,378	40,777	6,864	485	9,869	27,050	57,753
AL . . . . .	5,528	330	5,234	29,794	5,843	347	6,963	18,652	40,901
MS . . . . .	3,126	202	2,881	19,488	3,318	219	3,827	10,503	24,381
<b>W.S.C.</b> . . . . .	<b>31,876</b>	<b>1,648</b>	<b>32,573</b>	<b>271,595</b>	<b>31,304</b>	<b>1,432</b>	<b>34,861</b>	<b>101,009</b>	<b>262,832</b>
AR . . . . .	3,313	190	2,824	19,747	3,390	206	3,815	10,827	25,308
LA . . . . .	4,107	202	4,304	57,058	3,816	161	4,176	16,426	50,700
OK . . . . .	4,168	197	4,010	23,116	3,728	151	3,629	9,857	24,074
TX . . . . .	20,288	1,059	21,435	171,674	20,370	914	23,241	63,899	162,751
<b>West</b> . . . . .	<b>76,337</b>	<b>3,074</b>	<b>64,587</b>	<b>315,277</b>	<b>81,841</b>	<b>3,246</b>	<b>86,158</b>	<b>201,325</b>	<b>404,325</b>
<b>Mountain</b> . . . . .	<b>14,854</b>	<b>556</b>	<b>10,863</b>	<b>56,997</b>	<b>16,479</b>	<b>596</b>	<b>14,689</b>	<b>35,822</b>	<b>73,554</b>
MT . . . . .	1,090	20	379	3,668	1,239	20	426	1,112	3,498
ID . . . . .	1,404	48	865	5,370	1,491	53	1,149	3,057	7,005
WY . . . . .	511	10	183	2,558	500	8	180	493	2,074
CO . . . . .	4,406	192	3,983	17,963	4,718	184	4,958	12,046	23,236
NM . . . . .	1,223	33	521	3,815	1,322	35	713	1,653	4,226
AZ . . . . .	3,407	150	3,037	12,907	4,151	184	4,669	11,299	20,758
UT . . . . .	1,962	83	1,539	8,960	2,083	89	2,073	4,883	10,287
NV . . . . .	851	20	356	1,756	975	24	521	1,279	2,470
<b>Pacific</b> . . . . .	<b>61,483</b>	<b>2,518</b>	<b>53,724</b>	<b>258,280</b>	<b>65,362</b>	<b>2,650</b>	<b>71,469</b>	<b>165,503</b>	<b>330,771</b>
WA . . . . .	6,788	291	6,681	34,665	7,630	310	8,842	19,016	46,532
OR . . . . .	5,659	185	3,783	17,897	6,353	203	4,767	11,610	25,352
CA . . . . .	47,625	2,005	42,630	199,695	49,330	2,104	57,148	132,638	252,729
AK . . . . .	445	13	270	2,580	427	11	272	834	2,711
HI . . . . .	966	24	360	3,443	1,022	22	440	1,405	3,448

<sup>1</sup> Includes central administrative offices and auxiliary units. <sup>2</sup> Includes employment and payroll at administrative offices and auxiliary units. All employees represents the average of production workers plus all other employees for the payroll period ended nearest the 12th of March. Production workers represents the average of the employment for the payroll periods ended nearest the 12th of March, May, August, and November. <sup>3</sup> Includes extensive and unmeasurable duplication from shipments between establishments in the same industry classification. <sup>4</sup> Adjusted value added; takes into account (a) value added by merchandising operations (that is, difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly), plus (b) net change in finished goods and work-in-process inventories between beginning and end of year.

Source: U.S. Bureau of the Census, 1982 and 1987 Census of Manufactures.

## No. 1249. Manufactures Summary, by State: 1992

[Sum of State totals may not add to U.S. total because U.S. and State figures were independently derived]

REGION, DIVISION, AND STATE	Estab- lish- ments <sup>1</sup>	ALL EMPLOYEES <sup>2</sup>		Produc- tion workers (1,000)	Value added by manu- facture <sup>3</sup> (mil. dol.)	Value of ship- ments <sup>4</sup> (mil. dol.)
		Number (1,000)	Payroll (mil. dol.)			
<b>United States</b> . . . . .	<b>381,870</b>	<b>18,253</b>	<b>560,485</b>	<b>11,654</b>	<b>1,428,707</b>	<b>3,006,275</b>
<b>Northeast</b> . . . . .	<b>82,967</b>	<b>3,699</b>	<b>122,862</b>	<b>2,162</b>	<b>283,865</b>	<b>525,662</b>
<b>New England</b> . . . . .	<b>24,967</b>	<b>1,124</b>	<b>37,791</b>	<b>660</b>	<b>81,692</b>	<b>145,315</b>
Maine . . . . .	2,200	91	2,447	67	5,458	11,611
New Hampshire . . . . .	2,332	94	2,820	60	6,493	11,260
Vermont . . . . .	1,343	45	1,289	30	3,379	6,386
Massachusetts . . . . .	10,145	480	16,421	273	36,519	65,702
Rhode Island . . . . .	2,664	88	2,403	59	5,166	9,578
Connecticut . . . . .	6,283	326	12,411	171	24,677	40,778
<b>Middle Atlantic</b> . . . . .	<b>58,000</b>	<b>2,575</b>	<b>85,071</b>	<b>1,502</b>	<b>202,173</b>	<b>380,347</b>
New York . . . . .	26,617	1,049	35,225	592	86,349	154,211
New Jersey . . . . .	13,281	574	20,616	301	46,091	86,885
Pennsylvania . . . . .	18,102	952	29,230	609	69,733	139,251
<b>Midwest</b> . . . . .	<b>73,020</b>	<b>5,470</b>	<b>175,883</b>	<b>3,525</b>	<b>432,051</b>	<b>942,160</b>
<b>East North Central</b> . . . . .	<b>72,979</b>	<b>4,098</b>	<b>135,913</b>	<b>2,646</b>	<b>323,581</b>	<b>697,113</b>
Ohio . . . . .	18,292	1,046	34,904	681	86,161	184,637
Indiana . . . . .	9,285	619	19,114	435	49,662	104,871
Illinois . . . . .	18,784	970	31,605	588	74,860	158,129
Michigan . . . . .	16,531	917	34,207	574	71,724	161,409
Wisconsin . . . . .	10,087	546	16,083	368	41,174	88,067
<b>West North Central</b> . . . . .	<b>26,740</b>	<b>1,372</b>	<b>39,970</b>	<b>879</b>	<b>108,470</b>	<b>245,407</b>
Minnesota . . . . .	7,934	394	12,664	225	27,175	57,324
Iowa . . . . .	3,913	227	6,484	158	20,502	46,432
Missouri . . . . .	7,846	408	11,868	260	33,995	73,746
North Dakota . . . . .	666	19	438	13	1,423	3,678
South Dakota . . . . .	889	35	739	25	2,267	5,956
Nebraska . . . . .	2,028	100	2,516	72	7,952	21,816
Kansas . . . . .	3,464	189	5,261	126	15,156	36,095
<b>South</b> . . . . .	<b>112,543</b>	<b>5,908</b>	<b>158,853</b>	<b>4,095</b>	<b>458,531</b>	<b>1,019,572</b>
<b>South Atlantic</b> . . . . .	<b>56,717</b>	<b>2,989</b>	<b>80,393</b>	<b>2,052</b>	<b>228,773</b>	<b>461,046</b>
Delaware . . . . .	736	67	2,770	31	4,881	13,000
Maryland . . . . .	4,337	195	6,291	114	15,588	31,047
District of Columbia . . . . .	458	13	553	4	1,570	2,008
Virginia . . . . .	6,521	408	11,265	283	35,933	65,860
West Virginia . . . . .	1,786	78	2,337	56	6,511	13,217
North Carolina . . . . .	11,877	831	20,456	609	65,446	128,599
South Carolina . . . . .	4,839	367	9,425	272	24,725	51,996
Georgia . . . . .	9,767	556	14,278	394	41,038	90,999
Florida . . . . .	16,396	474	13,018	289	33,081	64,320
<b>East South Central</b> . . . . .	<b>22,123</b>	<b>1,399</b>	<b>34,389</b>	<b>1,045</b>	<b>98,705</b>	<b>221,601</b>
Kentucky . . . . .	4,310	277	7,524	203	25,265	60,029
Tennessee . . . . .	7,610	504	12,618	370	35,799	76,209
Alabama . . . . .	6,436	380	9,217	284	23,653	52,708
Mississippi . . . . .	3,767	238	5,030	188	13,988	32,655
<b>West South Central</b> . . . . .	<b>33,703</b>	<b>1,520</b>	<b>44,071</b>	<b>998</b>	<b>131,053</b>	<b>336,925</b>
Arkansas . . . . .	3,913	227	4,878	179	14,204	34,050
Louisiana . . . . .	4,048	179	5,460	126	20,509	60,940
Oklahoma . . . . .	4,064	157	4,282	109	13,808	30,287
Texas . . . . .	21,678	957	29,451	584	82,532	211,648
<b>West</b> . . . . .	<b>86,641</b>	<b>3,183</b>	<b>102,889</b>	<b>1,873</b>	<b>254,261</b>	<b>518,884</b>
<b>Mountain</b> . . . . .	<b>19,211</b>	<b>631</b>	<b>18,453</b>	<b>387</b>	<b>50,939</b>	<b>100,596</b>
Montana . . . . .	1,375	22	544	16	1,421	4,137
Idaho . . . . .	1,838	66	1,769	46	4,465	10,557
Wyoming . . . . .	577	9	225	6	856	2,385
Colorado . . . . .	5,295	184	5,926	107	15,300	29,220
New Mexico . . . . .	1,594	39	965	27	4,946	9,492
Arizona . . . . .	4,758	177	5,420	99	14,960	25,767
Utah . . . . .	2,525	106	2,860	68	7,271	15,750
Nevada . . . . .	1,249	28	744	18	1,720	3,288
<b>Pacific</b> . . . . .	<b>67,430</b>	<b>2,552</b>	<b>84,436</b>	<b>1,486</b>	<b>203,322</b>	<b>418,288</b>
Washington . . . . .	8,521	342	11,612	200	27,765	72,800
Oregon . . . . .	6,865	213	6,076	144	14,444	32,215
California . . . . .	50,513	1,960	65,766	1,117	158,240	305,805
Alaska . . . . .	513	16	426	12	1,347	3,678
Hawaii . . . . .	1,018	21	556	13	1,526	3,790

<sup>1</sup> Includes central administrative offices and auxiliary units. <sup>2</sup> Includes employment and payroll at administrative offices and auxiliary units. All employees represents the average of production workers plus all other employees for the payroll period ended nearest the 12th of March. Production workers represents the average of the employment for the payroll periods ended nearest the 12th of March, May, August, and November. <sup>3</sup> Adjusted value added; takes into account (a) value added by merchandising operations (that is, difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly), plus (b) net change in finished goods and work-in-process inventories between beginning and end of year. <sup>4</sup> Includes extensive and unmeasurable duplication from shipments between establishments in the same industry classification.

Source: U.S. Bureau of the Census, 1992 Census of Manufactures.

**No. 1250. Average Hourly Earnings of Production Workers in Manufacturing Industries,  
by State: 1980 to 1994**

[In dollars]

DIVISION AND STATE	1980	1985	1988	1989	1990	1991	1992	1993	1994
<b>United States . . . . .</b>	<b>7.27</b>	<b>9.54</b>	<b>10.19</b>	<b>10.48</b>	<b>10.83</b>	<b>11.18</b>	<b>11.46</b>	<b>11.74</b>	<b>12.06</b>
<b>New England:</b>									
Maine . . . . .	6.00	8.40	9.31	9.92	10.59	11.08	11.40	11.63	(NA)
New Hampshire . . . . .	5.87	8.39	9.97	10.37	10.83	10.84	11.22	11.62	11.73
Vermont . . . . .	6.14	8.41	9.47	9.99	10.52	11.00	11.52	11.82	11.54
Massachusetts . . . . .	6.51	9.00	10.40	10.87	11.39	11.81	12.15	12.36	12.59
Rhode Island . . . . .	5.59	7.59	8.64	9.06	9.45	9.73	9.92	10.20	10.35
Connecticut . . . . .	7.08	9.57	10.78	11.21	11.53	11.99	12.46	13.01	13.53
<b>Middle Atlantic:</b>									
New York . . . . .	7.18	9.67	10.43	10.67	11.11	11.43	11.72	11.97	12.19
New Jersey . . . . .	7.31	9.86	10.86	11.17	11.76	12.17	12.57	12.98	13.38
Pennsylvania . . . . .	7.59	9.57	10.33	10.66	11.04	11.46	11.78	12.11	12.49
<b>East North Central:</b>									
Ohio . . . . .	8.57	11.38	12.00	12.26	12.64	13.12	13.49	14.05	14.38
Indiana . . . . .	8.49	(NA)	(NA)	11.70	12.03	12.43	12.79	13.17	13.56
Illinois . . . . .	8.02	10.37	10.98	11.21	11.44	11.68	11.84	12.04	12.26
Michigan . . . . .	9.52	12.64	13.31	13.51	13.86	14.52	14.81	15.36	16.13
Wisconsin . . . . .	8.03	10.26	10.61	10.77	11.11	11.47	11.85	12.17	12.41
<b>West North Central:</b>									
Minnesota . . . . .	7.61	10.05	10.59	10.95	11.23	11.52	11.92	12.23	12.60
Iowa . . . . .	8.67	10.32	10.56	10.82	11.27	11.62	11.92	12.22	12.47
Missouri . . . . .	7.26	9.57	10.24	10.49	10.74	10.86	11.24	11.55	11.78
North Dakota . . . . .	6.56	8.05	8.36	8.80	9.27	9.25	9.60	9.86	10.19
South Dakota . . . . .	6.50	7.43	8.09	8.30	8.48	8.79	8.84	8.89	9.19
Nebraska . . . . .	7.38	9.02	9.38	9.53	9.66	9.84	10.22	10.46	10.94
Kansas . . . . .	7.37	9.45	10.24	10.68	10.94	11.24	11.60	11.99	12.14
<b>South Atlantic:</b>									
Delaware . . . . .	7.58	9.86	11.49	12.36	12.39	12.20	12.35	13.29	13.90
Maryland . . . . .	7.61	9.73	10.71	11.19	11.57	11.92	12.50	12.83	13.15
District of Columbia . . . . .	8.46	10.48	11.10	11.79	12.51	13.05	13.17	13.18	13.46
Virginia . . . . .	6.22	8.51	9.37	9.69	10.07	10.43	10.62	10.85	11.25
West Virginia . . . . .	8.08	10.24	10.81	11.17	11.53	11.77	12.11	12.27	12.60
North Carolina . . . . .	5.37	7.29	8.12	8.42	8.79	9.19	9.49	9.81	10.19
South Carolina . . . . .	5.59	7.61	8.30	8.54	8.84	9.17	9.48	9.80	9.99
Georgia . . . . .	5.77	8.10	8.65	8.87	9.17	9.56	9.86	10.09	10.35
Florida . . . . .	5.98	7.86	8.39	8.67	8.98	9.30	9.59	9.76	9.97
<b>East South Central:</b>									
Kentucky . . . . .	7.34	9.53	10.16	10.37	10.70	11.00	11.28	11.47	11.82
Tennessee . . . . .	6.08	8.29	8.96	9.22	9.55	9.92	10.13	10.33	10.51
Alabama . . . . .	6.49	8.48	8.95	9.10	9.39	9.72	9.99	10.35	10.75
Mississippi . . . . .	5.44	7.22	7.83	8.03	8.37	8.67	8.91	9.16	9.40
<b>West South Central:</b>									
Arkansas . . . . .	5.71	7.57	8.07	8.26	8.51	8.81	9.05	9.36	9.65
Louisiana . . . . .	7.74	10.43	10.94	11.13	11.61	11.86	12.19	12.66	13.13
Oklahoma . . . . .	7.36	9.86	10.35	10.48	10.73	11.09	11.38	11.42	11.41
Texas . . . . .	7.15	9.41	9.97	10.25	10.47	10.84	10.92	11.02	11.14
<b>Mountain:</b>									
Montana . . . . .	8.78	10.95	10.68	11.15	11.51	11.57	12.18	12.40	12.50
Idaho . . . . .	7.55	9.41	10.00	10.21	10.60	11.11	11.42	11.88	11.88
Wyoming . . . . .	7.01	9.64	10.27	10.58	10.83	10.98	11.10	11.53	11.81
Colorado . . . . .	7.63	9.52	10.38	10.44	10.94	11.33	11.32	12.01	12.27
New Mexico . . . . .	5.79	8.41	8.87	8.74	9.04	9.40	9.68	9.74	10.14
Arizona . . . . .	7.29	9.48	9.85	9.92	10.21	10.70	10.96	11.06	11.17
Utah . . . . .	7.02	9.64	10.11	10.14	10.32	10.77	11.09	11.10	11.26
Nevada . . . . .	7.72	9.15	10.08	10.33	11.05	11.04	11.55	11.65	11.83
<b>Pacific:</b>									
Washington . . . . .	(NA)	11.63	11.90	12.12	12.61	13.13	13.59	14.01	14.42
Oregon . . . . .	8.65	10.50	10.60	10.81	11.15	11.53	11.97	12.18	12.31
California . . . . .	7.70	10.12	10.80	11.16	11.48	11.87	12.19	12.38	12.44
Alaska . . . . .	10.22	12.19	11.98	12.01	12.46	11.40	10.75	11.14	10.96
Hawaii . . . . .	6.83	8.65	9.84	10.37	10.99	11.39	11.61	11.98	12.22

NA Not available.

Source: U.S. Bureau of Labor Statistics, *Employment and Earnings*, monthly.

**No. 1251. Industrial Production Indexes, by Industry: 1970 to 1994**

[1987=100. Beginning 1988, data based on 1987 Standard Industrial Classification (SIC), earlier years based on 1977 SIC; see text, section 26. See also *Historical Statistics, Colonial Times to 1970*, series P 13 and P 18-39]

INDUSTRY	SIC code	1970	1975	1980	1985	1988	1989	1990	1991	1992	1993	1994
<b>Total index . . . . .</b>	<b>(X)</b>	<b>61.4</b>	<b>66.3</b>	<b>84.1</b>	<b>94.4</b>	<b>95.3</b>	<b>104.4</b>	<b>106.0</b>	<b>106.0</b>	<b>104.3</b>	<b>107.6</b>	<b>112.0</b>
<b>Manufacturing . . . . .</b>	<b>(X)</b>	<b>56.4</b>	<b>61.1</b>	<b>78.8</b>	<b>91.6</b>	<b>94.3</b>	<b>104.7</b>	<b>106.4</b>	<b>106.1</b>	<b>103.9</b>	<b>108.0</b>	<b>112.9</b>
<b>Durable goods . . . . .</b>	<b>(X)</b>	<b>53.3</b>	<b>56.7</b>	<b>75.7</b>	<b>91.8</b>	<b>93.9</b>	<b>106.6</b>	<b>108.6</b>	<b>107.4</b>	<b>104.2</b>	<b>109.3</b>	<b>116.1</b>
Lumber and products . . . . .	24	66.7	66.5	76.9	88.0	95.1	100.1	99.4	97.1	90.5	95.8	100.2
Furniture and fixtures . . . . .	25	55.6	59.4	78.5	88.1	92.5	100.3	101.6	100.1	93.9	99.1	105.0
Stone, clay, and glass products . . . . .	32	71.1	77.8	92.0	93.6	97.1	102.6	102.5	100.3	92.5	95.3	99.2
Primary metals . . . . .	33	115.2	107.2	110.8	101.8	93.7	108.7	107.2	106.5	98.7	101.9	106.9
Fabricated metal products . . . . .	34	75.9	76.7	92.5	94.5	93.8	104.2	102.8	99.5	95.3	98.8	103.7
Industrial, commercial machinery . . . . .	35	32.8	38.1	60.6	86.8	90.3	113.0	117.3	117.6	115.0	124.6	141.1
Electrical machinery . . . . .	36	40.5	45.1	73.3	93.1	94.3	108.5	111.0	111.4	113.4	121.9	139.3
Transportation equipment . . . . .	37	55.5	59.7	72.3	91.8	96.9	105.2	109.6	107.0	101.3	105.1	105.5
Instruments . . . . .	38	38.8	52.4	78.8	95.7	95.1	103.6	104.6	104.9	106.3	106.3	106.2
<b>Nondurable goods . . . . .</b>	<b>(X)</b>	<b>61.1</b>	<b>67.7</b>	<b>83.1</b>	<b>91.5</b>	<b>94.9</b>	<b>102.3</b>	<b>103.7</b>	<b>104.4</b>	<b>103.6</b>	<b>106.5</b>	<b>109.3</b>
Food . . . . .	20	64.0	71.4	84.6	94.9	97.4	101.5	102.5	103.7	105.3	107.0	109.4
Tobacco products . . . . .	21	90.6	97.8	103.6	97.3	95.8	101.8	100.7	100.8	94.6	96.5	88.7
Textile mill products . . . . .	22	74.4	77.7	92.1	89.7	93.9	98.6	100.3	97.1	96.6	103.9	105.7
Paper and products . . . . .	26	62.9	65.9	83.1	92.2	97.1	103.1	105.0	105.6	106.5	108.9	113.8
Printing and publishing . . . . .	27	52.7	53.7	70.3	87.6	90.6	100.9	101.1	100.8	97.0	97.2	99.3
Chemicals and products . . . . .	28	55.9	69.1	87.8	91.4	94.6	106.0	109.2	111.8	111.1	114.7	119.1
Petroleum products . . . . .	29	83.9	91.5	99.0	92.6	98.9	101.9	102.3	103.3	101.3	102.1	104.5
Rubber and plastics products . . . . .	30	37.6	47.4	61.7	85.8	90.8	102.6	106.0	107.2	105.4	115.6	123.1
Leather and products . . . . .	31	208.0	182.5	161.7	112.5	102.6	99.8	99.6	96.0	86.4	89.0	87.3
<b>Mining . . . . .</b>	<b>(X)</b>	<b>100.4</b>	<b>98.0</b>	<b>110.0</b>	<b>109.0</b>	<b>101.0</b>	<b>101.3</b>	<b>100.0</b>	<b>102.0</b>	<b>100.2</b>	<b>98.9</b>	<b>98.2</b>
<b>Utilities . . . . .</b>	<b>(X)</b>	<b>72.9</b>	<b>84.3</b>	<b>95.9</b>	<b>99.5</b>	<b>96.3</b>	<b>105.0</b>	<b>108.7</b>	<b>109.9</b>	<b>112.3</b>	<b>111.9</b>	<b>116.2</b>

X Not applicable. <sup>1</sup> Includes computer equipment.

Source: Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, monthly.

**No. 1252. Index of Manufacturing Capacity: 1950 to 1994**

[1987 output=100. Annual figures are averages of quarterly data. Capacity represents estimated quantity of output relative to output in 1967 which the *current* stock of plant and equipment in manufacturing industries was capable of producing. Primary processing industries comprise textiles, lumber, paper and pulp, petroleum, rubber, stone, clay, glass, primary metals, fabricated metals, and a portion of chemicals. Advanced processing industries comprise chemical products, food, beverages, tobacco, apparel, furniture, printing and publishing, leather, machinery, transportation equipment, instruments, ordnance, and miscellaneous industry groups]

YEAR	Index of capacity	RELATION OF OUTPUT TO CAPACITY (percent)			YEAR	Index of capacity	RELATION OF OUTPUT TO CAPACITY (percent)		
		All manu- facturing	Primary processing	Advanced pro- cessing			All manu- facturing	Primary processing	Advanced pro- cessing
1950 . . . .	29	83	88	80	1985 . . . .	115	80	80	79
1955 . . . .	36	87	92	84	1986 . . . .	119	79	81	78
1960 . . . .	44	80	80	80	1987 . . . .	123	82	85	80
1965 . . . .	54	90	91	89	1988 . . . .	125	84	87	82
1970 . . . .	71	80	80	79	1989 . . . .	128	83	86	82
1975 . . . .	84	73	73	74	1990 . . . .	131	81	84	80
1980 . . . .	98	80	78	81	1991 . . . .	133	78	80	77
1981 . . . .	102	79	78	79	1992 . . . .	136	79	82	78
1982 . . . .	105	73	69	75	1993 . . . .	140	81	85	79
1983 . . . .	108	75	75	75	1994 . . . .	144	83	88	82
1984 . . . .	111	80	80	79					

Source: Board of Governors of the Federal Reserve System, *Capacity Utilization In Manufacturing, Mining, Utilities, and Industrial Materials*, G.3., monthly. (Based on data from Federal Reserve Board, Commerce, U.S. Bureau of Labor Statistics, and McGraw-Hill Information Systems Company, New York, NY, and other sources.)

**No. 1253. Finances of Manufacturing Corporations: 1970 to 1994**

[In billions of dollars. Beginning 1986, data exclude estimates for corporations with less than \$250,000 in assets at time of sample selection. Prior years include estimates for corporations in this size category. See table 890 for individual industry data]

ITEM	1970	1980	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Net sales . . . . .	709	1,897	2,335	2,331	2,221	2,378	2,596	2,745	2,811	2,761	2,890	3,015	3,261
Net operating profit . . . . .	50	129	159	138	125	159	190	182	173	133	151	180	241
Net profit:													
Before taxes . . . . .	48	145	166	137	129	173	216	189	160	100	33	119	244
After taxes . . . . .	29	92	108	88	83	116	155	136	112	68	23	84	175
Cash dividends . . . . .	15	36	45	46	46	50	57	65	62	60	63	67	70
Net income retained in business . . . . .	14	58	63	42	37	66	98	71	49	7	-40	17	105

Source: Through 1980, U.S. Federal Trade Commission; thereafter, U.S. Bureau of the Census, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*.

### No. 1254. Capital in Manufacturing Establishments: 1980 to 1993

[In billions of dollars, except percent. Data refer to privately owned manufacturing establishments and are based on the capital expenditures data from the Census of Manufactures, the *Annual Survey of Manufactures*, and the inventory investment component of GNP. For details, see source.]

ITEM	CURRENT DOLLARS						CONSTANT (1987) DOLLARS					
	1980	1985	1990	1991	1992	1993	1980	1985	1990	1991	1992	1993
Purchases of equipment and structures . . . . .	80	98	128	126	121	135	103	102	118	115	111	126
Percent equipment . . . . .	71	65	66	68	69	73	69	65	67	68	70	76
Depreciation (straight line) . . . . .	54	78	101	106	109	113	72	83	93	96	98	102
Percent equipment . . . . .	76	74	73	73	73	73	76	74	74	74	74	74
Net investment <sup>2</sup> . . . . .	26	20	27	20	12	22	31	19	25	19	12	25
Net stock, end of year <sup>1</sup> . . . . .	976	1,238	1,576	1,591	1,615	1,665	1,222	1,285	1,403	1,417	1,421	1,447
Equipment and structures . . . . .	666	898	1,153	1,184	1,219	1,270	860	950	1,026	1,047	1,061	1,087
Percent equipment . . . . .	62	58	57	57	56	56	61	58	57	56	56	57
Inventories . . . . .	310	340	424	407	397	395	361	336	377	371	360	360

<sup>1</sup> Depreciation and net stock estimates for equipment and structures are derived using the perpetual inventory method and the straight-line depreciation formula. <sup>2</sup> Represents the difference between purchases and depreciation.

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States*, volume 2, 1959-88, *Fixed Reproducible Tangible Wealth in the United States, 1925-89*, and *Survey of Current Business*, January 1992, August and September 1994, July and August 1994 issues.

### No. 1255. U.S. Exports of Manufactures; Origin of World Exports of Manufacture: 1970 to 1994

[In millions of dollars, except percents]

ITEM	1970-74	1975-79	1980-84	1985-89	1990	1991	1992	1993	1994
Manufactures export value . . . . .	40	88	143	185	281	305	327	339	381
Machinery & transport equipment . . . . .	25	56	91	120	174	190	203	211	233
Chemicals . . . . .	5	12	21	28	39	40	44	45	52
Other . . . . .	10	20	31	38	68	75	80	83	97
Origin of world exports of manu. (percent):									
United States . . . . .	13.1	12.4	12.8	10.7	11.3	12.0	11.8	12.7	(NA)
Machinery & transport equipment . . . . .	18.1	16.9	17.3	14.2	14.4	15.1	14.9	(NA)	(NA)
Chemicals . . . . .	14.6	13.8	15.2	13.0	13.1	13.3	13.1	(NA)	(NA)
Other . . . . .	7.5	6.9	6.9	5.6	7.0	7.6	7.4	(NA)	(NA)
Germany <sup>2</sup> . . . . .	15.9	15.4	13.7	14.4	14.6	14.2	14.0	12.5	(NA)
Japan . . . . .	10.0	10.9	12.8	13.0	11.2	11.9	11.8	13.0	(NA)
Other G-7 countries <sup>3</sup> . . . . .	23.6	23.5	22.1	21.3	22.0	21.6	21.0	20.8	(NA)
East Asian NIC's <sup>4</sup> . . . . .	2.8	4.1	6.0	7.7	7.6	8.2	8.1	9.3	(NA)

NA Not available. <sup>1</sup> U.S. exports are domestic exports only. <sup>2</sup> Prior to 1991, data for are for former West Germany only. <sup>3</sup> Other Group of Seven (G-7) Countries: Canada, France, Italy, United Kingdom. <sup>4</sup> East Asian newly industrialized countries (NIC's): Hong Kong, S. Korea, Singapore, Taiwan.

Source: U.S. Dept. of Commerce, International Trade Administration, Office of Trade and Economic Analysis. Based on United Nations Commodity Trade Statistics, *Statistical Yearbook of the Republic of China*, and unpublished data.

### No. 1256. Foreign Direct Investment Position in the United States—Manufacturing: 1992 and 1993

[In millions of dollars. Book value at year end. Covers U.S. firms in which foreign interest or ownership was 10% or more. Minus sign (-) indicates a negative position]

AREA OR COUNTRY	TOTAL <sup>1</sup>		FOOD AND KINDRED PRODUCTS		CHEMICALS AND ALLIED PRODUCTS		PRIMARY AND FABRICATED METALS		MACHINERY	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
<b>All countries <sup>2</sup> . . . . .</b>	<b>163,354</b>	<b>166,698</b>	<b>25,587</b>	<b>25,376</b>	<b>53,681</b>	<b>57,693</b>	<b>12,911</b>	<b>12,969</b>	<b>29,156</b>	<b>29,748</b>
Canada . . . . .	17,005	16,600	(D)	(D)	(D)	(D)	2,446	2,321	2,643	2,363
Europe <sup>2</sup> . . . . .	117,617	122,590	17,111	17,099	47,481	51,429	7,886	8,356	20,658	21,210
France . . . . .	17,563	16,937	1,561	1,601	7,416	7,516	2,316	2,642	3,078	2,949
Germany . . . . .	15,376	17,852	-106	-122	8,780	10,449	976	977	3,154	3,974
United Kingdom . . . . .	40,777	42,543	8,269	8,480	15,339	17,530	1,845	1,953	3,168	2,983
Sweden . . . . .	4,909	5,384	1	-	895	1,074	179	233	2,403	2,549
Switzerland . . . . .	11,088	11,299	2,408	2,494	3,957	4,522	557	521	2,484	2,274
Latin America . . . . .	6,636	5,219	111	246	1,412	1,247	76	45	-116	-69
Asia and Pacific . . . . .	21,768	21,618	(D)	(D)	(D)	(D)	2,518	2,260	5,932	5,873
Japan . . . . .	18,321	17,746	946	986	3,231	3,308	1,554	1,508	5,023	4,768

- Represents or rounds to zero. D Data withheld to avoid disclosure of individual companies. <sup>1</sup> Includes other manufacturing industries not shown separately. <sup>2</sup> Includes other countries not shown separately.

Source: U.S. Bureau of Economic Analysis, *Survey of Current Business*, July 1993.



**No. 1257. Employment Related to Manufactured Exports, by Industry: 1985 to 1991**

[Total employment related to manufactured exports is the sum of employment directly calculated for the plants shipping the exported product, the supplying industries and service organizations, and the central offices and auxiliaries. For manufacturing industries, employment is limited to paid employees in manufacturing plants, while for nonmanufacturing it includes an estimate for working proprietors and partners]

INDUSTRY	EMPLOYMENT RELATED TO MANUFACTURED EXPORTS						CIVILIAN EMPLOYMENT (1,000)		
	Employees (1,000)			Percent of civilian employment			1985	1990	1991
	1985	1990	1991	1985	1990	1991			
<b>Total . . . . .</b>	<b>4,413</b>	<b>5,729</b>	<b>6,092</b>	<b>4.0</b>	<b>4.8</b>	<b>5.1</b>	<b>110,136</b>	<b>119,943</b>	<b>120,040</b>
Manufacturing . . . . .	2,295	3,212	3,363	12.2	17.1	18.6	18,788	18,840	18,062
Nonmanufacturing . . . . .	2,118	2,516	2,730	2.3	2.5	2.7	91,348	101,103	101,978
Trade . . . . .	949	1,211	1,427	4.3	5.1	6.0	21,999	23,718	23,780
Business services . . . . .	227	256	268	1.1	1.0	1.0	21,139	25,611	26,206
Transportation . . . . .	282	401	397	4.6	6.2	6.0	6,155	6,500	6,641
Agriculture . . . . .	127	139	139	3.7	4.1	4.0	3,423	3,382	3,470
Mining . . . . .	50	68	78	4.9	9.2	10.2	1,016	738	767
Other . . . . .	483	442	421	1.3	1.1	1.0	37,616	41,154	41,114

<sup>1</sup> Includes communications and utilities.

**No. 1258. Manufacturing Establishments—Export-Related Shipments and Employment, 1977 to 1990, and by Industry, 1991**

[The export-related employment data do not include the jobs involved in the export of nonmanufactured goods and various services sold to foreign buyers. Thus, jobs in the manufacturing sector that relate to the export of nonmanufactured goods are excluded from the estimates. In addition, all of the indirect exports being reported are domestically produced; that is, they exclude imports. See source for further details on methodology]

INDUSTRY	SIC code <sup>1</sup>	MANUFACTURER'S SHIPMENT VALUE				MANUFACTURING EMPLOYMENT			
		Total <sup>2</sup> (bil. dol.)	Export related		Export related as percent of shipments	Total (1,000)	Export related		Export related as percent of total employment
			Total (bil. dol.)	Direct exports <sup>3</sup> (bil. dol.)			Total (1,000)	Direct exports <sup>4</sup> (1,000)	
1977 . . . . .	(X)	1,358.4	142.4	85.8	10.4	19,590	1,990	1,106	10.2
1980 . . . . .	(X)	1,852.7	249.8	151.2	13.5	20,647	2,639	1,486	12.8
1981 . . . . .	(X)	2,017.5	271.7	164.3	13.4	20,264	2,604	1,486	12.9
1983 . . . . .	(X)	2,055.3	246.4	141.6	12.0	18,737	2,173	1,118	11.6
1984 . . . . .	(X)	2,253.8	268.3	151.0	11.9	19,141	2,179	1,083	11.4
1985 . . . . .	(X)	2,278.9	286.7	156.9	12.6	18,788	2,295	1,083	12.2
1986 . . . . .	(X)	2,260.3	294.3	159.4	13.0	18,371	2,318	1,061	12.6
1987 . . . . .	(X)	2,475.9	378.8	193.6	15.3	18,900	2,771	1,185	14.7
1988 . . . . .	(X)	2,684.7	395.3	242.9	14.7	19,147	2,638	1,412	13.8
1989 . . . . .	(X)	2,793.0	460.5	287.4	16.5	19,042	2,948	1,610	15.5
1990 . . . . .	(X)	2,873.5	515.0	293.7	17.9	18,840	3,214	1,614	17.1
<b>1991, total . . . . .</b>	<b>(X)</b>	<b>2,826.2</b>	<b>546.9</b>	<b>314.1</b>	<b>19.4</b>	<b>18,062</b>	<b>3,363</b>	<b>1,697</b>	<b>18.6</b>
Food and kindred products . . . . .	20	387.6	26.5	17.6	6.8	1,475	91	63	6.2
Tobacco products . . . . .	21	32.0	6.5	4.7	20.2	40	9	7	23.1
Textile mill products . . . . .	22	65.7	10.0	4.2	15.2	598	85	32	14.3
Apparel, other textile products . . . . .	23	65.3	4.8	3.6	7.4	960	61	45	6.3
Lumber and wood products . . . . .	24	70.6	14.1	6.2	20.0	631	105	41	16.6
Furniture and fixtures . . . . .	25	40.0	2.1	1.4	5.3	466	24	16	5.2
Paper and allied products . . . . .	26	128.4	19.8	8.0	15.4	621	87	31	14.0
Printing and publishing . . . . .	27	156.7	13.0	3.1	8.3	1,488	123	23	8.3
Chemical and allied products . . . . .	28	292.3	76.2	38.6	26.1	846	221	117	26.2
Petroleum and coal products . . . . .	29	158.1	15.7	5.7	9.9	113	11	5	10.1
Rubber, misc. plastics products . . . . .	30	100.7	19.4	6.8	19.3	840	160	53	19.0
Leather, leather products . . . . .	31	9.1	1.9	1.5	20.9	106	15	11	13.7
Stone, clay, glass products . . . . .	32	59.6	6.8	3.0	11.5	476	51	22	10.7
Primary metal industries . . . . .	33	132.8	39.5	10.5	29.8	677	198	43	29.3
Fabricated metal products . . . . .	34	157.1	28.5	9.9	18.2	1,359	256	83	18.8
Machinery, except electric . . . . .	35	243.5	79.2	53.9	32.5	1,774	512	323	28.8
Electric, electronic equipment . . . . .	36	197.9	61.2	39.5	30.9	1,427	484	321	33.9
Transportation equipment . . . . .	37	364.0	89.7	72.2	24.6	1,634	377	293	23.1
Instruments and related products . . . . .	38	127.2	26.3	19.7	20.7	901	183	137	20.3
Misc. manufacturing . . . . .	39	37.1	5.6	3.9	15.0	363	49	33	13.6
Administrative and auxiliary . . . . .	(X)	(X)	(X)	(X)	(X)	1,269	261	(X)	20.5

X Not applicable. <sup>1</sup> Standard Industrial Classification; see text, section 13. <sup>2</sup> Includes total domestic and export shipments for all manufacturing establishments. <sup>3</sup> Includes only the value of manufactured products exported by the producing plants. <sup>4</sup> Employment is limited to paid employees in manufacturing plants producing the export product. The number of employees related to export shipments was calculated for each establishment, aggregated by industry and by States, and inflated to a level comparable to the plant value of exports reported in the official foreign trade statistics at port value.

Source of tables 1257 and 1258: U.S. Bureau of the Census, 1987 and 1992 *Census of Manufactures and Annual Survey of Manufactures*.

### No. 1259. Export-Related Shipments and Employment of Manufacturing Establishments, by State: 1991

[Export-related figures exclude jobs in the manufacturing sector that are involved in the export of nonmanufactured goods and various services sold to foreign buyers. In addition, all of the indirect exports being reported are domestically produced, that is they exclude imports. Includes central administration and auxiliary office employees]

REGION, DIVISION, AND STATE	MANUFACTURES SHIPMENT VALUE					MANUFACTURING EMPLOYMENT				
	Total (bil. dol.)	Export related			Export related shipments, percent of total	Total (1,000)	Export related			Export related employment, percent of total
		Total (bil. dol.)	Direct exports (bil. dol.)	Sup- porting exports (bil. dol.)			Total (1,000)	Direct exports (1,000)	Sup- porting exports (1,000)	
<b>United States . . . . .</b>	<b>2,826.2</b>	<b>546.9</b>	<b>314.1</b>	<b>232.8</b>	<b>19.4</b>	<b>18,061.7</b>	<b>3,362.5</b>	<b>1,697.2</b>	<b>1,665.3</b>	<b>18.6</b>
<b>Northeast . . . . .</b>	<b>506.8</b>	<b>95.7</b>	<b>54.5</b>	<b>41.2</b>	<b>18.9</b>	<b>3,757.2</b>	<b>715.4</b>	<b>352.9</b>	<b>362.5</b>	<b>18.8</b>
<b>New England . . . . .</b>	<b>138.6</b>	<b>32.5</b>	<b>20.6</b>	<b>11.9</b>	<b>23.4</b>	<b>1,150.3</b>	<b>254.1</b>	<b>141.5</b>	<b>112.6</b>	<b>22.1</b>
Maine . . . . .	11.6	2.4	1.3	1.2	20.9	98.8	17.9	9.7	8.2	18.1
New Hampshire . . . . .	9.8	2.2	1.3	0.9	22.1	85.8	18.2	9.0	9.2	21.2
Vermont . . . . .	5.8	1.2	0.5	0.7	20.6	42.8	7.9	3.7	4.2	18.5
Massachusetts . . . . .	61.9	14.4	9.5	4.9	23.4	489.7	111.0	63.9	47.1	22.7
Rhode Island . . . . .	9.6	1.9	1.0	0.9	19.4	94.6	17.0	8.2	8.8	18.0
Connecticut . . . . .	40.0	10.4	7.0	3.3	25.9	338.6	82.1	47.0	35.1	24.2
<b>Middle Atlantic . . . . .</b>	<b>368.1</b>	<b>63.2</b>	<b>33.9</b>	<b>29.3</b>	<b>17.1</b>	<b>2,606.9</b>	<b>461.3</b>	<b>211.4</b>	<b>249.9</b>	<b>17.7</b>
New York . . . . .	148.4	27.6	16.5	11.1	18.6	1,054.0	189.5	98.8	90.7	18.0
New Jersey . . . . .	85.7	13.0	6.4	6.5	15.2	590.9	102.0	39.0	63.0	17.3
Pennsylvania . . . . .	134.0	22.6	10.9	11.7	16.8	962.0	169.8	73.6	96.2	17.7
<b>Midwest . . . . .</b>	<b>877.2</b>	<b>155.4</b>	<b>86.2</b>	<b>69.4</b>	<b>17.7</b>	<b>5,351.7</b>	<b>979.3</b>	<b>450.5</b>	<b>528.8</b>	<b>18.3</b>
<b>East North Central . . . . .</b>	<b>647.2</b>	<b>121.1</b>	<b>67.1</b>	<b>53.9</b>	<b>18.7</b>	<b>4,006.8</b>	<b>764.8</b>	<b>348.7</b>	<b>416.1</b>	<b>19.1</b>
Ohio . . . . .	174.9	35.9	20.4	15.5	20.5	1,045.4	209.5	96.4	113.1	20.0
Indiana . . . . .	97.3	17.6	8.9	8.7	18.1	594.1	105.9	47.9	58.0	17.8
Illinois . . . . .	151.9	27.4	14.4	12.9	18.0	976.1	181.9	80.9	101.0	18.6
Michigan . . . . .	143.1	27.3	16.5	10.8	19.1	858.2	175.4	81.9	93.5	20.4
Wisconsin . . . . .	80.0	12.9	6.9	6.0	16.2	533.0	92.1	41.6	50.5	17.3
<b>West North Central . . . . .</b>	<b>230.0</b>	<b>34.3</b>	<b>19.1</b>	<b>15.5</b>	<b>14.9</b>	<b>1,344.9</b>	<b>214.5</b>	<b>101.8</b>	<b>112.7</b>	<b>16.1</b>
Minnesota . . . . .	53.3	8.8	4.9	3.9	16.4	384.5	69.4	32.9	36.5	18.0
Iowa . . . . .	45.0	6.6	3.6	3.0	14.6	224.0	33.3	16.6	16.7	14.9
Missouri . . . . .	66.4	10.0	5.5	4.6	15.1	401.4	61.6	27.5	34.1	15.3
North Dakota . . . . .	3.1	0.4	0.3	0.2	14.4	17.2	2.1	1.1	1.0	12.2
South Dakota . . . . .	4.5	0.6	0.3	0.3	13.7	30.3	5.0	2.6	2.4	16.5
Nebraska . . . . .	21.0	2.7	1.6	1.2	13.1	100.5	13.8	6.6	7.2	13.7
Kansas . . . . .	36.7	5.2	2.9	2.3	14.3	187.0	29.3	14.5	14.8	15.7
<b>South . . . . .</b>	<b>955.1</b>	<b>177.1</b>	<b>92.6</b>	<b>84.4</b>	<b>18.5</b>	<b>5,788.2</b>	<b>988.7</b>	<b>492.5</b>	<b>496.2</b>	<b>17.1</b>
<b>South Atlantic . . . . .</b>	<b>425.5</b>	<b>76.8</b>	<b>41.9</b>	<b>34.8</b>	<b>18.0</b>	<b>2,935.5</b>	<b>469.2</b>	<b>218.8</b>	<b>250.4</b>	<b>16.0</b>
Delaware . . . . .	11.9	2.0	1.2	0.9	17.1	62.4	12.4	3.3	9.1	19.9
Maryland . . . . .	29.6	4.9	2.8	2.1	16.7	200.6	31.3	14.4	16.9	15.6
District of Columbia . . . . .	2.1	0.2	0.1	0.1	10.4	13.3	1.2	0.2	1.0	9.0
Virginia . . . . .	61.6	10.6	6.1	4.5	17.2	408.4	57.2	26.3	30.9	14.0
West Virginia . . . . .	12.5	3.3	1.4	1.9	26.2	78.1	15.8	5.5	10.3	20.2
North Carolina . . . . .	118.2	20.7	10.6	10.1	17.5	801.9	122.2	54.9	67.3	15.2
South Carolina . . . . .	47.5	10.2	5.2	4.9	21.4	352.6	63.4	27.8	35.6	18.0
Georgia . . . . .	82.8	13.0	6.8	6.2	15.7	545.1	80.9	37.7	43.2	14.8
Florida . . . . .	59.3	11.9	7.7	4.1	20.0	473.1	84.8	48.7	36.1	17.9
<b>East South Central . . . . .</b>	<b>202.7</b>	<b>35.8</b>	<b>18.0</b>	<b>17.7</b>	<b>17.7</b>	<b>1,366.4</b>	<b>209.7</b>	<b>98.6</b>	<b>111.1</b>	<b>15.4</b>
Kentucky . . . . .	53.5	9.3	5.0	4.3	17.4	272.9	45.2	22.0	23.2	16.6
Tennessee . . . . .	69.5	12.0	6.1	5.8	17.2	493.0	77.5	37.2	40.3	15.7
Alabama . . . . .	48.5	9.3	4.1	5.2	19.1	363.3	56.5	24.1	32.4	15.6
Mississippi . . . . .	31.2	5.2	2.8	2.4	16.6	237.2	30.5	15.3	15.2	12.9
<b>West South Central . . . . .</b>	<b>326.9</b>	<b>64.5</b>	<b>32.7</b>	<b>31.9</b>	<b>19.7</b>	<b>1,486.3</b>	<b>309.8</b>	<b>175.1</b>	<b>134.7</b>	<b>20.8</b>
Arkansas . . . . .	31.1	5.0	2.4	2.6	16.0	220.2	32.3	15.2	17.1	14.7
Louisiana . . . . .	63.4	12.2	5.5	6.6	19.2	174.8	29.8	13.7	16.1	17.0
Oklahoma . . . . .	28.4	4.2	2.0	2.3	14.9	168.6	26.9	12.3	14.6	16.0
Texas . . . . .	204.0	43.1	22.8	20.4	21.1	922.7	220.8	133.9	86.9	23.9
<b>West . . . . .</b>	<b>487.1</b>	<b>118.9</b>	<b>80.7</b>	<b>38.0</b>	<b>24.4</b>	<b>3,165.1</b>	<b>679.2</b>	<b>401.4</b>	<b>277.8</b>	<b>21.5</b>
<b>Mountain . . . . .</b>	<b>91.4</b>	<b>18.2</b>	<b>10.0</b>	<b>8.0</b>	<b>19.9</b>	<b>607.4</b>	<b>113.4</b>	<b>57.4</b>	<b>56.0</b>	<b>18.7</b>
Montana . . . . .	3.8	0.6	0.1	0.4	15.1	19.8	2.8	0.6	2.2	14.1
Idaho . . . . .	9.8	2.8	2.0	0.8	28.8	60.5	13.3	7.7	5.6	22.0
Wyoming . . . . .	2.7	0.4	0.1	0.3	13.3	9.8	1.4	0.4	1.0	14.3
Colorado . . . . .	26.8	4.5	2.6	1.9	16.9	176.3	32.0	17.3	14.7	18.2
New Mexico . . . . .	8.0	1.7	0.6	1.0	20.7	40.7	5.9	2.5	3.4	14.5
Arizona . . . . .	23.0	5.3	3.1	2.2	23.0	173.5	36.1	17.7	18.4	20.8
Utah . . . . .	14.5	2.5	1.3	1.2	17.2	101.8	18.0	9.4	8.6	17.7
Nevada . . . . .	2.8	0.4	0.2	0.2	15.6	25.6	3.9	1.8	2.1	15.2
<b>Pacific . . . . .</b>	<b>395.7</b>	<b>100.7</b>	<b>70.7</b>	<b>30.0</b>	<b>25.4</b>	<b>2,557.7</b>	<b>565.8</b>	<b>344.0</b>	<b>221.8</b>	<b>22.1</b>
Washington . . . . .	68.0	29.6	25.3	4.3	43.6	353.8	110.4	81.2	29.2	31.2
Oregon . . . . .	30.7	7.1	4.1	3.0	23.1	208.4	43.6	24.0	19.6	20.9
California . . . . .	289.6	61.6	39.3	22.3	21.3	1,961.8	402.0	230.7	171.3	20.5
Alaska . . . . .	3.6	1.8	1.6	0.2	49.7	14.4	7.1	6.3	0.8	49.3
Hawaii . . . . .	3.8	0.6	0.4	0.2	16.3	19.3	2.7	1.8	0.9	14.0

Source: U.S. Bureau of the Census, *Exports from Manufacturing Establishments* AR91-1.

No. 1260. Manufacturing Technology—Percent of Establishments Using and Planning to Use: 1993

ESTABLISHMENT CHARACTERISTIC	ESTABLISHMENTS USING SELECTED TECHNOLOGIES							PLANNING TO USE WITHIN 2 YEARS						
	Computer aided design (CAD) or computer aided engineering	Numerically controlled machines	Automated storage and retrieval	Automated sensor based inspection or testing	Communication and control			Computer aided design (CAD) or computer aided engineering	Numerically controlled machines	Automated storage and retrieval	Automated sensor based inspection or testing	Communication and control		
					Programmable controllers	Computer control on factory floor	Inter-company computer network					Programmable controllers	Computer control on factory floor	Inter-company computer network
Major SIC <sup>1</sup> group:														
34, Fabricated metal products . . .	46.5	40.4	1.2	9.6	30.2	20.2	16.7	5.1	2.5	0.9	4.1	3.2	9.2	8.0
35, Industrial mach. and equip. . .	64.1	61.9	2.3	10.6	29.0	28.1	15.4	4.1	2.1	0.9	4.0	4.3	9.1	7.5
36, Electronic and other. . . . .	64.2	34.5	3.8	17.5	30.7	33.2	21.9	4.2	2.4	1.7	5.1	3.5	9.9	9.8
37, Transportation equip. . . . .	53.9	44.1	3.8	16.2	30.7	26.8	23.4	5.3	2.9	0.8	4.4	3.2	8.2	7.0
38, Instruments, related prod. . . .	65.5	35.1	4.8	14.7	29.8	29.0	15.3	3.3	2.3	1.6	4.4	4.4	8.7	10.2
Employment size:														
20 to 99 . . . . .	49.5	41.4	0.6	7.9	20.5	18.8	12.0	4.7	2.4	0.4	3.8	3.6	9.0	6.7
100 to 499 . . . . .	76.4	56.5	4.1	20.0	49.1	41.8	28.4	4.5	2.1	2.5	5.7	4.5	10.1	12.4
500 and over. . . . .	87.2	67.1	23.6	38.8	69.8	62.8	47.1	1.0	2.3	3.1	4.5	2.4	5.6	11.1
Age of plant (years):														
Less than 5 . . . . .	63.5	38.4	2.5	11.0	25.6	27.5	15.0	5.7	3.8	1.5	6.7	4.6	13.1	9.7
5 to 15 . . . . .	62.0	47.9	2.5	13.3	30.4	28.2	18.0	5.2	2.5	1.0	4.6	4.1	10.7	8.9
16 to 30 . . . . .	64.4	53.7	2.5	13.3	33.1	29.4	20.5	4.8	2.9	1.0	4.5	3.6	8.9	9.4
Over 30 . . . . .	63.1	57.3	4.0	15.6	39.1	30.7	22.0	4.1	6.5	1.3	3.7	4.3	8.2	8.3
Manufacturing process:														
Fabrication/machining . . . . .	51.5	57.1	2.1	13.1	29.5	26.6	16.3	4.5	3.4	0.6	5.2	3.4	10.0	7.7
Assembly . . . . .	67.3	14.6	1.8	15.7	25.1	28.5	20.7	4.4	1.9	1.8	4.3	3.8	9.4	9.9
Both. . . . .	69.0	62.7	2.8	13.5	36.0	30.8	20.5	5.3	2.7	1.0	4.9	4.6	10.6	9.5
Neither. . . . .	29.3	12.8	1.1	10.5	29.8	20.9	12.3	3.4	0.7	1.4	2.2	1.3	4.9	6.2
Market for most products:														
Consumer . . . . .	48.2	33.9	2.7	12.6	35.3	25.2	20.6	4.8	2.6	1.4	4.6	3.6	10.8	9.8
Commercial. . . . .	66.3	44.4	3.0	11.6	30.2	32.2	18.7	2.8	1.9	1.8	4.2	5.2	10.4	10.8
Industrial. . . . .	64.3	55.6	2.4	12.2	32.2	27.4	18.2	5.4	2.8	0.9	3.8	4.0	9.5	9.0
Transportation . . . . .	64.3	54.9	3.5	21.1	44.3	34.2	32.2	6.2	2.4	0.7	7.8	3.6	11.4	6.8
Government . . . . .	74.1	62.9	6.3	18.4	29.3	33.6	15.7	1.4	1.5	1.0	5.7	4.2	9.4	7.8
Other . . . . .	63.7	42.2	2.4	12.7	24.1	26.9	13.6	5.8	3.2	1.3	5.8	3.3	8.2	8.6
Market price for most products:														
Less than \$5 . . . . .	46.3	39.4	2.1	18.1	45.1	30.4	26.1	7.4	3.4	1.4	7.5	3.5	10.9	11.3
\$5 to \$100 . . . . .	53.6	51.1	1.9	13.3	36.1	29.8	22.3	5.4	2.9	1.5	4.9	4.6	10.9	10.2
\$101 to \$1,000 . . . . .	63.6	54.6	3.0	13.8	30.6	28.1	16.4	4.1	2.0	0.7	4.7	4.0	10.3	8.4
\$1,001 to \$2,000 . . . . .	68.3	43.7	3.9	13.6	23.5	26.3	16.2	3.7	3.2	1.6	3.5	3.8	8.7	6.2
\$2,001 to \$10,000 . . . . .	73.5	54.9	2.5	9.7	24.5	27.3	14.9	5.8	1.5	1.1	4.3	4.5	10.0	6.9
Over \$10,000 . . . . .	83.3	54.2	4.8	12.7	30.0	30.1	18.5	2.9	2.6	1.2	3.2	4.0	8.8	8.8

Manufacturing Technology

<sup>1</sup> Standard Industrial Classification; see text, section 13.

Source: U.S. Bureau of the Census, *Current Industrial Reports, Manufacturing Technology; Prevalence and Plans for Use 1993*.

## No. 1261. Alcoholic Beverages—Summary: 1980 to 1994

[For 1980-1985, stocks on hand for years ending June 30; later data for years ending September 30. All other items for fiscal years ending in year shown; see text, section 9. Includes Puerto Rico. Excludes imports. See *Historical Statistics, Colonial Times to 1970*, series P 235 for beer and P 236a for distilled spirits]

ITEM	Unit	1980	1985	1989	1990	1991	1992	1993	1994
<b>BEER</b>									
Breweries operated . . . . .	Number . . . . .	86	103	245	286	333	392	480	619
Production <sup>1</sup> . . . . .	Mil. bbl. <sup>2</sup> . . . . .	193	194	198	202	204	202	202	203
Value of shipments <sup>3</sup> . . . . .	Mil. dol. . . . .	9,362	12,216	14,321	15,186	15,925	17,328	(NA)	(NA)
Tax-paid withdrawals . . . . .	Mil. bbl. <sup>2</sup> . . . . .	172	175	179	182	183	182	180	180
Stocks on hand . . . . .	Mil. bbl. <sup>2</sup> . . . . .	15	14	14	14	14	13.4	13.7	13.4
<b>DISTILLED SPIRITS</b>									
Production facilities operated . . . . .	Number . . . . .	143	117	140	143	145	143	132	150
Warehouses operated . . . . .	Number . . . . .	200	214	260	243	224	236	235	230
Production <sup>4</sup> . . . . .	Mil. tax gal. <sup>5</sup> . . . . .	236	117	135	122	129	110	111	99
Tax-paid withdrawals <sup>6</sup> . . . . .	Mil. tax gal. <sup>5</sup> . . . . .	330	306	251	251	242	246	240	229
Stocks on hand <sup>4</sup> . . . . .	Mil. tax gal. <sup>5</sup> . . . . .	696	588	456	451	459	365	420	410
Bottled for consumption . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	392	371	312	306	299	304	306	300
Whisky: Production <sup>1</sup> . . . . .	Mil. tax gal. <sup>5</sup> . . . . .	87	65	75	77	75	62	59	59
Stocks on hand . . . . .	Mil. tax gal. <sup>5</sup> . . . . .	566	467	361	365	368	309	361	354
Bottled for consumption . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	165	138	109	106	100	101	99	95
<b>STILL WINES</b>									
Production <sup>1</sup> . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	982	622	611	577	478	484	417	438
Distilling materials . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	184	148	122	103	108	134	98	113
Tax-paid withdrawals <sup>8</sup> . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	340	414	464	468	387	387	354	356
Stocks on hand <sup>4</sup> . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	486	602	558	562	539	525	520	477
<b>EFFERVESCENT WINES<sup>10</sup></b>									
Production <sup>1</sup> . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	26.8	32.0	30.9	26.9	22.8	24.7	27.7	23.7
Tax-paid withdrawals . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	24.1	30.9	27.0	26.2	24.6	24.1	24.4	23.7
Stocks on hand . . . . .	Mil. wine gal. <sup>7</sup> . . . . .	11.9	21.3	19.4	22.1	20.4	18.8	19.5	16.5

NA Not available. <sup>1</sup> Production represents total amount removed from fermenters, including distilling material, and includes increase after fermentation (by amelioration, sweetening, and addition of wine spirits). <sup>2</sup> Barrels of 31 wine gallons. <sup>3</sup> Source: U.S. Bureau of the Census, *Census of Manufactures*, and *Annual Survey of Manufactures*. <sup>4</sup> Excludes alcohol produced for industrial use. <sup>5</sup> For spirits of 100 proof or over, a tax gallon is equivalent to the proof gallon; for spirits of less than 100 proof, the tax gallon is equivalent to the wine gallon. A proof gallon is the alcoholic equivalent of a U.S. gallon at 60 degrees F, containing 50 percent of ethyl alcohol by volume. <sup>6</sup> Includes ethyl alcohol. <sup>7</sup> A wine gallon is the U.S. gallon equivalent to the volume of 231 cubic inches. <sup>8</sup> Includes special natural wines. <sup>9</sup> Excludes distilling materials. <sup>10</sup> Includes champagne, other effervescent wines, and artificially carbonated wines.

Source: Except as noted, U.S. Bureau of Alcohol, Tobacco, and Firearms, *Alcohol and Tobacco Summary Statistics*, annual.

## No. 1262. Tobacco Products—Production, Consumption, and Expenditures: 1970 to 1992

[Production data are for calendar years. Excludes cigars produced in customs bonded manufacturing warehouses. See also *Historical Statistics, Colonial Times to 1970*, series P 239-241]

ITEM	Unit	1970	1980	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<b>PRODUCTION</b>													
Cigarettes . . . . .	Billions . . . . .	583	714	667	669	665	658	689	695	677	710	695	719
Nonfilter tip . . . . .	Billions . . . . .	116	54	43	39	36	33	30	28	24	23	19	18
Regular . . . . .	Billions . . . . .	54	23	19	18	16	15	14	12	11	11	9	9
King . . . . .	Billions . . . . .	62	30	24	21	20	18	16	16	13	12	10	9
Filter tip . . . . .	Billions . . . . .	467	661	625	630	629	625	660	667	654	687	675	701
Long and king . . . . .	Billions . . . . .	362	439	384	380	378	373	397	400	392	417	423	430
Extra long . . . . .	Billions . . . . .	105	222	241	251	252	252	263	267	261	270	253	271
Cigars . . . . .	Billions . . . . .	8	4	4	4	3	3	2	2	2	2	2	2
Tobacco <sup>1</sup> . . . . .	Mil. lb. . . . .	165	163	162	163	158	147	143	142	141	142	142	141
<b>CONSUMPTION PER PERSON<sup>2</sup></b>													
Total . . . . .	Lb. <sup>3</sup> . . . . .	10	8	7	7	7	7	6	6	6	6	5	5
Cigarettes . . . . .	1,000 . . . . .	4	4	4	3	3	3	3	3	3	3	3	3
Cigars <sup>4</sup> . . . . .	Number . . . . .	60	24	21	20	18	17	15	14	14	13	12	12
<b>CONSUMER EXPENDITURES</b>													
Total . . . . .	Bil. dol . . . . .	11.5	21.0	28.7	30.7	32.2	33.7	35.4	37.8	40.9	43.8	47.4	48.4
Cigarettes . . . . .	Bil. dol . . . . .	10.4	19.4	26.8	28.8	30.3	31.8	33.6	35.9	38.3	41.6	45.2	45.8
Cigars . . . . .	Bil. dol . . . . .	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.6
Other . . . . .	Bil. dol . . . . .	0.4	0.9	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.8	2.0

<sup>1</sup> Smoking and chewing tobaccos and snuff output. <sup>2</sup> Based on estimated population 18 years old and over, as of July 1, including Armed Forces abroad. <sup>3</sup> Unstemmed processing weight equivalent. <sup>4</sup> Weighing over 3 pounds per 1,000.

Source: U.S. Dept. of Agriculture, Economic Research Service, *Tobacco Situation and Outlook*, quarterly.

**No. 1264. Textiles and Apparel Products—U.S. Exports and Imports: 1992 to 1994**

[In millions of dollars. Excludes glass fibers, rubber and leather apparel, and clothing donated for charity.  
Minus sign (-) indicates deficit]

PRODUCT	EXPORTS			GENERAL IMPORTS			MERCHANDISE TRADE BALANCE		
	1992	1993	1994	1992	1993	1994	1992	1993	1994
<b>Total . . . . .</b>	<b>10,120</b>	<b>10,977</b>	<b>12,208</b>	<b>39,070</b>	<b>42,225</b>	<b>45,952</b>	<b>-28,950</b>	<b>-31,248</b>	<b>-33,744</b>
Textile yarn fabrics . . . . .	5,911	6,025	6,592	7,844	8,438	9,208	-1,933	-2,413	-2,616
Textile yarn . . . . .	1,179	1,045	1,213	955	1,146	1,335	224	-101	-122
Cotton fabric, woven . . . . .	591	641	725	1,493	1,552	1,498	-902	-911	-773
Woven fabric of manmade textiles . .	825	883	925	1,206	1,261	1,291	-381	-378	-366
Woven fabric of textile material . . . .	185	210	236	666	662	695	-481	-452	-459
Special yarns . . . . .	1,335	1,418	1,588	797	878	977	538	540	611
Other . . . . .	1,796	1,828	1,905	2,727	2,939	3,412	-931	-1,111	-1,507
Apparel . . . . .	4,209	4,952	5,616	31,226	33,787	36,744	-27,017	-28,835	-31,128

Source: U.S. Bureau of the Census, *U.S. Merchandise Trade: Exports, General Imports, and Imports for Consumption*, Report FT925, monthly.

## No. 1268. Computer Shipments and Revenues: 1991 to 1993

[Revenue is in if-sold, end-user dollars]

ITEM	FACTORY REVENUE (mil. dol.)			SHIPMENTS (units)		
	1991	1992	1993	1991	1992	1993
United States:						
Supercomputer . . . . .	876	938	701	558	571	405
Mainframe . . . . .	9,713	7,453	4,643	3,227	2,421	1,929
Midrange . . . . .	7,967	8,534	6,705	151,574	124,745	107,034
Workstation . . . . .	3,458	3,719	4,375	210,541	237,730	262,869
Personal computer . . . . .	24,589	25,858	29,695	10,903,000	12,544,374	14,775,000
Canada:						
Supercomputer . . . . .	22	37	38	17	26	29
Mainframe . . . . .	671	623	243	204	156	123
Midrange . . . . .	485	618	509	10,117	9,094	6,794
Workstation . . . . .	188	185	181	8,017	11,806	10,687
Personal computer . . . . .	2,077	2,405	2,730	926,000	1,175,000	1,415,000
Western Europe:						
Supercomputer . . . . .	529	479	448	241	269	213
Mainframe . . . . .	9,629	7,490	5,782	4,088	2,455	1,963
Midrange . . . . .	9,699	6,727	7,157	198,780	155,142	145,353
Workstation . . . . .	2,540	2,604	2,828	154,581	175,762	171,744
Personal computer . . . . .	17,517	18,872	17,999	8,406,937	9,495,441	10,323,974
Japan:						
Supercomputer . . . . .	494	450	558	140	108	122
Mainframe . . . . .	6,252	5,367	5,569	5,631	3,630	4,191
Midrange . . . . .	5,673	4,916	4,808	286,626	233,967	194,385
Workstation . . . . .	1,885	1,883	2,143	124,712	124,073	133,750
Personal computer . . . . .	4,586	4,750	5,885	2,354,300	2,223,810	2,464,093
Asia/Pacific:						
Supercomputer . . . . .	54	83	82	44	63	58
Mainframe . . . . .	544	642	568	257	238	265
Midrange . . . . .	263	522	784	3,978	8,757	12,883
Workstation . . . . .	256	327	351	15,871	23,842	20,374
Personal computer . . . . .	4,574	5,219	7,053	2,235,000	3,031,398	3,935,135
Rest of World:						
Supercomputer . . . . .	16	67	31	13	50	18
Mainframe . . . . .	382	584	473	158	200	246
Midrange . . . . .	476	506	625	15,063	13,209	18,862
Workstation . . . . .	373	340	408	15,808	24,038	24,006
Personal computer . . . . .	4,237	6,991	10,256	2,140,763	3,940,777	5,929,798

## No. 1269. Microcontrollers and Chip Shipments: 1990 to 1993

ITEM	REVENUE (mil. dol.)				SHIPMENTS (millions of units)			
	1990	1991	1992	1993	1990	1991	1992	1993
Microcontrollers, worldwide . . . . .	3,667	4,519	4,613	5,813	1,365	1,562	1,895	2,155
8-bit . . . . .	2,079	2,618	(NA)	3,612	567	729	844	1,096
4-bit . . . . .	1,394	1,598	(NA)	1,705	781	801	1,003	999
16-bit . . . . .	194	303	(NA)	496	17	32	48	60
32-bit processors . . . . .	1,402	2,456	4,363	8,427	26	44	61	77
RISC . . . . .	175	270	305	642	1	1	3	7
CISC <sup>2</sup> . . . . .	1,227	2,186	4,057	7,785	25	42	27	70
256K DRAM <sup>3</sup> chips . . . . .	1,322	622	270	162	620	299	193	105
1-Megabit DRAM chips . . . . .	4,229	3,776	2,644	2,031	665	835	821	601

NA Not available. <sup>1</sup> RISC=Reduced Instruction Set Computer. <sup>2</sup> CISC=Complex Instruction Set Computer.  
<sup>3</sup> DRAM=Dynamic Random Access Memory.

### No. 1272. Semiconductors and Related Devices: 1980 to 1993

[In millions of dollars, except percent. Semiconductors and related devices represent SIC 3674]

ITEM	1980	1985	1988	1989	1990	1991	1992	1993
Consumption, North American market <sup>1</sup> . . . . .	6,053	9,420	15,844	17,070	16,540	16,990	20,426	27,998
Revenues (North American companies) . . . . .	8,062	11,051	18,586	19,515	21,047	22,940	27,105	37,453
Capital expenditures (North America) <sup>2</sup> . . . . .	1,438	2,629	3,434	3,642	3,855	4,077	4,296	5,809
Percent of sales . . . . .	17.8	23.8	18.5	18.7	18.3	17.8	15.9	15.5
Japan capital expend. as a percent of revenues . . . . .	11.0	11.4	14.9	15.5	20.5	20.4	22.2	16.2
R&D (North America) . . . . .	423	1,159	3,873	4,269	5,172	5,652	6,122	5,587
<b>Imports, total</b> <sup>3</sup> . . . . .	<b>2,223</b>	<b>4,870</b>	<b>9,502</b>	<b>10,758</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>
Shipments <sup>4</sup> . . . . .	9,455	15,253	20,332	23,488	23,978	26,302	25,964	30,425
Integrated microcircuits . . . . .	6,768	10,872	14,857	16,682	16,372	19,151	20,065	24,084
Semiconductor devices, n.e.c. <sup>5</sup> . . . . .	1,398	2,569	3,337	4,875	5,584	5,761	5,899	6,341
Assets, beginning of year . . . . .	4,014	12,200	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available. <sup>1</sup> Source: Dataquest Inc., San Jose, CA, unpublished data. Revenue from shipments by all companies into Canada and the United States. <sup>2</sup> Capital expenditures by all companies in Canada and the United States. <sup>3</sup> Imports for consumption. Includes imports not shown separately. <sup>4</sup> Includes items not shown separately. <sup>5</sup> N.e.c. = Not elsewhere classified.

Source: Except as noted, U.S. Bureau of the Census, *Current Industrial Reports*, series MA-36Q; *U.S. Imports, FT 210, 1980-1988*; *Import CD-ROM Disc 1989*; and *Annual Survey of Manufactures*.

**No. 1274. Manufacturers' Shipments, Inventories, and Orders: 1950 to 1994**[In billions of dollars, except ratio. See also *Historical Statistics, Colonial Times to 1970*, series P 74-92]

YEAR	Shipments	Inventories (Dec. 31) <sup>1</sup>	Ratio of inventories to shipments <sup>2</sup>	New orders	Unfilled orders (Dec. 31)	YEAR	Shipments	Inventories (Dec. 31) <sup>1</sup>	Ratio of inventories to shipments <sup>2</sup>	New orders	Unfilled orders (Dec. 31)
1950 . . . .	224	32	1.41	242	41	1973 . . . .	875	124	1.63	913	158
1951 . . . .	261	39	1.78	287	67	1974 . . . .	1,018	158	1.86	1,047	187
1952 . . . .	270	42	1.71	279	76	1975 . . . .	1,039	160	1.77	1,023	171
1953 . . . .	298	44	1.90	283	60	1976 . . . .	1,186	175	1.66	1,194	180
1954 . . . .	280	42	1.71	268	48	1977 . . . .	1,358	188	1.58	1,381	202
1955 . . . .	318	45	1.63	330	60	1978 . . . .	1,523	209	1.55	1,580	259
1956 . . . .	333	51	1.74	340	68	1979 . . . .	1,727	239	1.61	1,771	303
1957 . . . .	345	52	1.90	331	53	1980 . . . .	1,853	262	1.61	1,876	326
1958 . . . .	327	50	1.75	324	47	1981 . . . .	2,018	280	1.74	2,015	323
1959 . . . .	363	53	1.68	369	52	1982 . . . .	1,960	307	1.91	1,947	309
1960 . . . .	371	54	1.79	363	45	1983 . . . .	2,071	308	1.80	2,105	343
1961 . . . .	371	55	1.67	373	47	1984 . . . .	2,288	334	1.78	2,315	370
1962 . . . .	400	58	1.76	401	48	1985 . . . .	2,334	330	1.72	2,348	384
1963 . . . .	421	60	1.66	426	53	1986 . . . .	2,336	318	1.66	2,342	390
1964 . . . .	448	63	1.62	460	65	1987 . . . .	2,476	333	1.64	2,513	427
1965 . . . .	492	68	1.58	505	79	1988 . . . .	2,682	361	1.64	2,724	469
1966 . . . .	538	78	1.70	557	97	1989 . . . .	2,793	380	1.66	2,831	507
1967 . . . .	558	84	1.71	565	104	1990 . . . .	2,874	392	1.66	2,888	522
1968 . . . .	603	90	1.76	608	110	1991 . . . .	2,826	380	1.64	2,812	508
1969 . . . .	642	98	1.81	647	115	1992 . . . .	2,934	373	1.55	2,899	472
1970 . . . .	634	101	1.91	625	106	1993 . . . .	3,102	370	1.46	3,068	438
1971 . . . .	671	102	1.76	672	107	1994 . . . .	3,370	384	1.40	3,383	452
1972 . . . .	756	108	1.58	770	120						

<sup>1</sup> Beginning in 1982, inventories are stated at current cost and are not comparable to the book value estimates for prior years. <sup>2</sup> Ratio based on December seasonally adjusted data.

Source: U.S. Bureau of the Census, Current Industrial Reports, *Manufacturers' Shipments, Inventories, and Orders: 1982-1992*, series M3; and monthly press releases.



### No. 1275. Value of Manufactures Shipments and Inventories, by Industry: 1980 to 1994

[In billions of dollars. Based on 1987 Standard Industrial Classification (SIC). See also *Historical Statistics, Colonial Times to 1970*, series P 74-79]

INDUSTRY	SIC code	1980	1985	1990	1991	1992	1993	1994
<b>Shipments . . . . .</b>	<b>(X)</b>	<b>1,853</b>	<b>2,335</b>	<b>2,874</b>	<b>2,826</b>	<b>2,934</b>	<b>3,102</b>	<b>3,370</b>
Durable goods <sup>1</sup> . . . . .	(X)	929	1,215	1,469	1,430	1,507	1,632	1,813
Stone, clay, and glass products . . . . .	32	45	56	64	60	67	706	803
Primary metals . . . . .	33	134	112	146	133	136	138	157
Fabricated metal products . . . . .	34	116	143	163	157	161	170	182
Industrial machinery and equipment . . . . .	35	181	218	256	244	253	288	330
Engines and turbines . . . . .	351	14	15	17	17	17	19	22
Construction, mining <sup>2</sup> . . . . .	353	34	28	31	28	25	30	33
Computer and office equipment . . . . .	357	30	60	64	59	66	77	89
Electronic and other . . . . .	36	113	164	195	198	209	233	274
Elec. transmission and distribution . . . . .	361-2	20	24	28	27	28	29	31
Household appliances . . . . .	363	13	16	18	18	18	20	23
Household audio and video equipment . . . . .	365	9	12	9	10	11	11	13
Communications equipment . . . . .	366	21	35	39	38	42	48	62
Electronic components . . . . .	367	27	42	61	65	70	81	97
Transportation equipment <sup>1</sup> . . . . .	37	187	307	368	364	391	425	463
Motor vehicles and parts . . . . .	371	105	193	215	206	236	282	329
Aircraft, missiles, and parts . . . . .	372, 6	59	91	125	131	128	113	102
Instruments and related products <sup>1</sup> . . . . .	38	60	96	124	127	127	129	132
Measuring and controlling devices . . . . .	382	16	26	32	32	34	35	39
Nondurable goods <sup>1</sup> . . . . .	(X)	924	1,119	1,405	1,396	1,428	1,471	1,557
Food and kindred products <sup>1</sup> . . . . .	20	256	309	384	388	395	414	430
Beverages . . . . .	208	33	44	52	55	57	59	63
Tobacco products . . . . .	21	12	19	30	32	33	31	33
Textile mill products . . . . .	22	47	55	66	66	70	70	74
Paper and allied products <sup>1</sup> . . . . .	26	73	95	131	129	131	129	138
Paper, pulp, paperboard mill products . . . . .	261-3,6	32	39	58	54	54	52	55
Paperboard containers and boxes . . . . .	265	17	23	31	31	33	32	36
Chemicals and allied products <sup>1</sup> . . . . .	28	168	205	288	292	302	314	342
Industrial chemicals . . . . .	281,2,6,8	102	115	157	154	156	161	180
Drugs, soaps, toiletries . . . . .	283-4	42	61	95	103	110	117	122
Petroleum and coal products . . . . .	29	193	177	173	158	155	147	144
Rubber and plastics products . . . . .	30	49	76	101	101	103	104	114
<b>Inventories (Dec. 31) . . . . .</b>	<b>(X)</b>	<b>262</b>	<b>330</b>	<b>393</b>	<b>380</b>	<b>373</b>	<b>370</b>	<b>384</b>
Durable goods <sup>1</sup> . . . . .	(X)	172	214	255	244	233	231	242
Stone, clay, and glass products . . . . .	32	6	7	8	8	8	7	8
Primary metals . . . . .	33	23	20	22	20	19	19	21
Fabricated metal products . . . . .	34	19	23	24	23	23	23	24
Industrial machinery and equipment . . . . .	35	40	46	48	47	44	45	48
Engines and turbines . . . . .	351	3	3	3	3	3	3	4
Construction, mining <sup>2</sup> . . . . .	353	9	8	7	6	6	6	6
Computer and office equipment . . . . .	357	8	12	10	10	10	11	10
Electronic and other . . . . .	36	21	30	32	31	30	33	39
Elec. transmission and distrib. . . . .	361-2	4	5	5	4	4	4	5
Household appliances . . . . .	363	2	3	3	2	2	2	3
Household audio and video equipment . . . . .	365	1	1	1	1	1	1	1
Communications equipment . . . . .	366	5	8	7	7	7	9	12
Electronic components . . . . .	367	5	8	10	10	10	11	12
Transportation equipment <sup>1</sup> . . . . .	37	35	52	75	72	65	60	57
Motor vehicles and parts . . . . .	371	10	12	13	13	11	12	12
Aircraft, missiles, and parts . . . . .	372, 6	22	36	58	55	50	45	41
Instruments and related products <sup>1</sup> . . . . .	38	13	21	25	24	23	21	21
Measuring and controlling devices . . . . .	382	4	6	7	7	7	6	7
Nondurable goods <sup>1</sup> . . . . .	(X)	90	116	138	136	140	140	142
Food and kindred products <sup>1</sup> . . . . .	20	22	24	29	30	30	31	31
Beverages . . . . .	208	4	5	5	5	5	5	5
Tobacco products . . . . .	21	4	6	6	7	7	7	6
Textile mill products . . . . .	22	7	7	8	8	9	9	9
Paper and allied products <sup>1</sup> . . . . .	26	8	10	13	13	13	13	13
Paper, pulp, paperboard mill products . . . . .	261-3,6	3	4	5	6	6	6	5
Paperboard containers and boxes . . . . .	265	2	3	3	3	3	3	4
Chemicals and allied products <sup>1</sup> . . . . .	28	20	26	33	34	35	34	34
Industrial chemicals . . . . .	281,2,6,8	11	14	18	17	17	17	17
Drugs, soaps, toiletries . . . . .	283-4	6	8	11	12	13	13	13
Petroleum and coal products . . . . .	29	10	14	13	11	11	10	10
Rubber and plastics products . . . . .	30	6	9	12	11	12	12	13

X Not applicable. <sup>1</sup> Includes industries not shown separately. <sup>2</sup> Also includes material handling industries.

Source: U.S. Bureau of the Census, Current Industrial Reports, *Manufactures' Shipments, Inventories, and Orders: 1982-1994*, and monthly press releases.

**No. 1276. Fiber, Rugs, Carpeting, and Sheets—Shipments: 1988 to 1994**

PRODUCT	Unit	1988	1989	1990	1991	1992	1993	1994
All fibers <sup>1</sup>	Mil. lbs.	730	743	812	837	926	1,008	1030
Raw wool	Mil. lbs.	133	135	133	152	151	157	153
Noils, and fiber <sup>4</sup>	Mil. lbs.	24	24	20	21	21	23	19
Other fibers	Mil. lbs.	573	584	659	664	754	829	858
Knit fabric production	Mil. lbs.	1,662	1,935	1,901	1,963	2,179	2,185	(NA)
Rugs, carpet and carpeting	Mil. dol.	8,417	8,431	8,527	7,980	8,749	9,318	(NA)
Sheets	1,000 doz	15,505	15,663	15,408	14,001	15,198	16,734	(NA)
Pillow cases	1,000 doz	12,564	13,089	12,665	11,301	12,523	11,928	(NA)
Terry towels	1,000 doz	47,179	62,741	42,376	43,158	48,789	48,517	(NA)

NA Not available. <sup>1</sup> Includes man-made fiber top converted from tow without combing. A number of companies were added for 1990 based on information in the 1987 Census of Manufactures. Data were received from these companies for 1990; therefore, the information shown for years prior to 1990 may not be directly comparable. These changes represent approximately 20 percent of the total fibers consumed on the woolen system and worsted combing. <sup>2</sup> Data are shown on a scoured basis for greasy wool. <sup>3</sup> Shorn and pulled wool of sheep excludes raw wool consumed in cotton system spinning to avoid disclosing figures for individual companies. <sup>4</sup> Includes reprocessed and reused wool, mohair, alpaca, vicuna, and other specialty fibers as well as tops and noils consumed in woolen spinning and mohair consumed in worsted combing. Does not include wool tops consumed in cotton system spinning.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA22K, MA22Q, and MQ23X, annual.

**No. 1277. Glass Containers, Clay Construction Products, and Refractories—Shipments: 1987 to 1993**

[In millions of dollars]

PRODUCT	1987	1988	1989	1990	1991	1992	1993
Glass container shipments	282	280	286	285	279	283	290
Brick shipments <sup>1</sup>	(NA)	(NA)	1,088	1,014	883	920	1,006
Clay tile shipments <sup>2</sup>	(NA)	(NA)	698	687	639	646	701
Clay pipe and fittings shipments	(NA)	(NA)	63	60	51	38	32
Refractory shipments	1,682	1,950	2,011	2,003	1,947	1,956	1,912
Clay	740	814	823	771	784	786	749
Nonclay	943	1,136	1,188	1,232	1,163	1,170	1,163

NA Not available. <sup>1</sup> Building or common and face bricks. <sup>2</sup> Floor and wall tile including quarry tile.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, M32G, MQ32D, and MA32C, annual.

**No. 1278. Mining and Mineral Processing Equipment—Shipments: 1992 and 1993**

PRODUCT	Product code	Number of companies 1993	QUANTITY (units)		VALUE (mil. dol.)	
			1992	1993	1992	1993
Portable crushing, screening, washing, and combination plants	3531K	16	468	933	65	150
Underground mining machinery <sup>1</sup>	35325	34	1,293	2,958	248	303
Mineral processing and beneficiation equip. <sup>1</sup>	35326	(NA)	5,310	(NA)	70	(NA)
Crushing/pulverizing/screening machinery <sup>2</sup>	35327	47	2,469	2,879	135	173
Drills, mining machinery, n.e.c. <sup>1 3</sup>	35328	27	12,749	10,742	162	218
Portable drilling rigs and parts	3533A	30	(X)	(X)	255	339

NA Not available. X Not applicable. <sup>1</sup> Excludes parts. <sup>2</sup> Excludes portables and parts. <sup>3</sup> N.e.c. = Not elsewhere classified.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA35F, annual.

## No. 1279. Inorganic Materials and Pharmaceutical Preparations: 1990 to 1993

PRODUCT	Product code	Unit	1990	1991	1992	1993
<b>INORGANIC FERTILIZERS</b>						
Ammonia, synthetic anhydrous:	28731 31					
Total production . . . . .		1,000 sh. tons	17,003	17,169	17,924	16,858
Shipments . . . . .		1,000 sh. tons	10,382	10,002	10,642	10,072
Shipments value . . . . .		Mil. dol. . . . .	1,072	1,036	1,095	1,134
Ammonium nitrate, original solution:	28731 50					
Total production . . . . .		1,000 sh. tons	7,714	7,819	7,981	8,255
Ammonium sulfate:	28731 57					
Total production . . . . .		1,000 sh. tons	2,519	2,243	2,391	2,424
Shipments . . . . .		1,000 sh. tons	2,529	2,251	2,239	2,415
Shipments value . . . . .		Mil. dol. . . . .	130	130	140	150
Urea (100%):	28732					
Total production . . . . .		1,000 sh. tons	8,217	8,133	8,766	8,286
Shipments . . . . .		1,000 sh. tons	5,362	5,432	5,343	5,215
Shipments value . . . . .		Mil. dol. . . . .	640	723	696	621
Nitric acid (100%):	28731 11					
Total production . . . . .		1,000 sh. tons	7,931	7,927	8,136	8,254
Shipments . . . . .		1,000 sh. tons	647	623	672	668
Shipments value . . . . .		Mil. dol. . . . .	81	82	85	88
Phosphoric acid (100% P2O5):	28741 81					
Total production . . . . .	28741 85	1,000 sh. tons	12,035	12,109	12,826	11,515
Shipments . . . . .		1,000 sh. tons	4,170	4,398	4,375	3,688
Shipments value . . . . .		Mil. dol. . . . .	1,226	1,282	1,182	969
Sulfuric acid, gross (100%):	28193					
Total production . . . . .		1,000 sh. tons	44,327	43,466	44,524	39,348
Shipments . . . . .		1,000 sh. tons	11,879	11,536	10,950	11,408
Shipments value . . . . .		Mil. dol. . . . .	589	587	529	480
Superphosphates and other fertilizer materials (100% P2O5):	28742					
Total production . . . . .		1,000 sh. tons	8,982	9,044	9,696	8,645
Shipments . . . . .		1,000 sh. tons	9,016	9,017	9,666	8,666
Shipments value . . . . .		Mil. dol. . . . .	2,711	2,832	2,530	2,043
<b>INORGANIC CHEMICAL SHIPMENTS</b>						
Alkalies and chlorine . . . . .	2812	Mil. dol. . . . .	3,187	3,029	2,761	2,295
Chlorine (100% Cl) . . . . .	28121	Mil. dol. . . . .	478	260	194	561
Sodium hydroxide (caustic soda) . . . . .	28123	Mil. dol. . . . .	2,341	2,387	2,206	1,365
Other alkalies . . . . .	28125	Mil. dol. . . . .	361	375	353	363
Alkalies and chlorine n.s.k. . . . .	28120 00	Mil. dol. . . . .	7	7	7	7
Inorganic color pigments . . . . .	2816	Mil. dol. . . . .	2,261	2,065	2,428	2,391
Titanium dioxide (composite and pure) (commodity weight) . . . . .	28161 00	Mil. dol. . . . .	2,131	1,949	2,316	2,253
Inorganic chemicals n.e.c. . . . .	2819	Mil. dol. . . . .	13,612	12,817	12,838	12,212
Sulfuric acid, gross (new and fortified) . . . . .	28193	Mil. dol. . . . .	589	587	529	480
Inorganic acids, except nitric, phosphoric and sulfuric . . . . .	28194	Mil. dol. . . . .	603	559	505	455
Aluminum oxide, except natural alumina . . . . .	28195	Mil. dol. . . . .	1,499	1,081	947	920
Aluminum compounds . . . . .	28196	Mil. dol. . . . .	665	662	595	576
Potassium and sodium compounds (except bleaches, alkalies, and alums) . . . . .	28197	Mil. dol. . . . .	1,956	1,892	1,932	1,869
Chemical catalytic preparations . . . . .	28198	Mil. dol. . . . .	1,221	1,238	1,350	1,405
Other inorganic chemicals n.e.c. . . . .	28199	Mil. dol. . . . .	6,846	6,567	6,533	6,107
Industrial inorganic chemicals n.s.k. . . . .	28190 00	Mil. dol. . . . .	232	232	220	199
Household bleaching compounds . . . . .	28422 00	Mil. dol. . . . .	724	826	920	888
<b>PHARMACEUTICAL PREP. SHIPMENTS</b>						
Affecting neoplasms, endocrine systems, and metabolic disease . . . . .	28341	Mil. dol. . . . .	2,743	2,877	3,179	(NA)
Acting on the central nervous system and sense organs . . . . .	28342	Mil. dol. . . . .	7,219	7,431	8,103	(NA)
Acting on the cardiovascular system . . . . .	28343	Mil. dol. . . . .	4,815	4,810	4,877	(NA)
Acting on the respiratory system . . . . .	28344	Mil. dol. . . . .	3,724	4,260	5,024	(NA)
Acting on the digestive system . . . . .	28345	Mil. dol. . . . .	4,840	5,625	7,050	(NA)
Acting on the skin . . . . .	28346	Mil. dol. . . . .	1,558	1,579	1,687	(NA)
Vitamin, nutrient, and hematonic preps. . . . .	28347	Mil. dol. . . . .	2,588	2,787	2,998	(NA)
Affecting parasitic and infective disease . . . . .	28348	Mil. dol. . . . .	5,411	6,006	7,060	(NA)
Pharmaceutical preps. for veterinary use . . . . .	28349	Mil. dol. . . . .	1,057	1,462	1,350	(NA)

NA Not available.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA28A, MA28B, and MA28G, annual.

### No. 1280. Engines, Refrigeration and Heating Equipment, and Pumps and Compressors: 1991 to 1993

PRODUCT	Product code	Unit	1991	1992	1993
Internal combustion engines produced . . . . .	(X)	1,000 . . . .	16,791	18,868	21,342
Gasoline (except outboard, aircraft, and auto) . . . . .	35191	1,000 . . . .	16,220	18,217	20,538
Nonautomotive diesel (except aircraft) . . . . .	35193	1,000 . . . .	184	178	191
Automotive diesel . . . . .	35194	1,000 . . . .	383	469	608
Natural gas and LPG . . . . .	35196	1,000 . . . .	4	4	5
Air-conditioning, heating equipment shipments:					
Heat transfer equipment . . . . .	35851	Mil. dol. . . .	3,925	4,118	4,705
Unitary air-conditioners . . . . .	35852	Mil. dol. . . .	3,533	3,913	3,977
Commercial refrigeration equipment . . . . .	35853 pt	Mil. dol. . . .	148	(D)	183
Compressors and compressor units . . . . .	35854	Mil. dol. . . .	2,317	2,931	3,101
Condensing units, refrigeration (complete) . . . . .	35855	Mil. dol. . . .	210	203	206
Room air-conditioners and dehumidifiers . . . . .	35856	Mil. dol. . . .	812	774	821
Nonelectric warm air furnaces and humidifiers . . . . .	3585C pt	Mil. dol. . . .	957	1,216	1,323
Pumps and compressors <sup>1</sup> :					
Industrial pumps . . . . .	(X)	Mil. dol. . . .	5,119	5,916	6,140
Hydraulic fluid power pumps and motors . . . . .	35611	Mil. dol. . . .	2,263	2,465	2,499
Domestic water systems . . . . .	35617,8	Mil. dol. . . .	-2	(NA)	(NA)
Oil well, oilfield, and other pumps (including laboratory pumps) . . . . .	35613	Mil. dol. . . .	273	331	330
Compressors and vacuum pumps . . . . .	35631	Mil. dol. . . .	597	805	911
			1,993	2,315	2,403

D Data withheld to avoid disclosure of company data. NA Not available. X Not applicable. <sup>1</sup> Excludes hand pumps, automatic circulating pumps, compressors for icemaking and refrigeration equipment, air conditioning units, and replacements and repair parts for pumps and compressors.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA35L, MA35M, and MA35P, annual.

### No. 1281. Computers and Office and Accounting Machines—Shipments: 1992 and 1993

PRODUCT	Product code	Number of companies, 1992	QUANTITY (number)		VALUE (mil. dol.)	
			1992	1993	1992	1993
Electronic computers (automatic data processors) . . . . .	3571	192	(X)	(X)	28,571	28,447
Large-scale processing equipment . . . . .	35713	27	23	31	5,267	4,095
Medium- and small-scale processing equipment <sup>2</sup> . . . . .	35714	43	181	190	3,347	2,426
Personal computers and workstations . . . . .	35715	76	9,104	13,383	17,060	17,782
Portable computers . . . . .	35716	25	1,590	2,694	1,644	2,575
Computer storage devices and equipment . . . . .	35721	103	4,490	12,537	6,202	7,017
Parts for computer storage devices and subassemblies . . . . .	35722	29	(X)	(X)	1,357	1,394
Computer terminals . . . . .	35751	73	3,851	4,360	1,708	1,531
Parts for computer terminals . . . . .	35752	18	(X)	(X)	192	276
Computer peripheral equipment, n.e.c. . . . .	35771	265	(X)	(X)	8,506	10,007
Calculating and accounting machines . . . . .	35784	15	(X)	(X)	967	1,029
Automatic typing and word processing machines . . . . .	35792	5	2,323	1,717	465	343
Mailing, letter handling, addressing machines . . . . .	35795	30	906	1,258	1,152	1,268
Other office machines, n.e.c. . . . .	35799	48	(X)	(X)	(D)	(D)
Magnetic and optical recording media . . . . .	36950	64	(X)	(X)	4,337	4,293

NA Not available. X Not applicable. <sup>1</sup> 64 megabytes in MINIMUM main memory configuration. <sup>2</sup> Up to 64 megabytes in MINIMUM main memory configuration.

Source: U.S. Bureau of the Census, *Current Industrial Report*, MA35R, annual.

### No. 1282. Metalworking Machinery—Shipments: 1987 to 1993

[In millions of dollars]

PRODUCT	Product code	1987	1988	1989	1990	1991	1992	1993
Metalworking machinery . . . . .	(X)	2,669	2,858	3,514	3,426	3,172	3,074	3,222
Metal cutting type . . . . .	(X)	1,781	1,735	2,429	2,371	2,139	2,000	2,085
Machining centers <sup>1</sup> . . . . .	3541A	218	334	442	437	362	378	485
Station type machines . . . . .	3541B	300	225	563	502	450	435	375
Other metal cutting machine tools <sup>2</sup> . . . . .	3541C	174	165	174	142	196	167	166
Metal forming type . . . . .	(X)	888	1,123	1,086	1,065	1,033	1,074	1,140

X Not applicable. <sup>1</sup> Multi-function numerically controlled machines. <sup>2</sup> Excludes those designed primarily for home workshops, labs, etc.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MQ35W, annual.

### No. 1283. Switchgear, Switchboard Apparatus, Relays, and Industrial Controls—Shipments: 1988 to 1993

[In millions of dollars]

PRODUCT	Product code	Compan- ies, 1992 (number)	1988	1989	1990	1991	1992	1993
			Power circuit breakers . . . . .	36132	23	386	393	388
Low volt panelboards & dist. boards <sup>1</sup> . . . . .	36133	117	1,664	1,747	1,722	1,643	1,531	1,620
Fuses and fuse equipment <sup>2</sup> . . . . .	36134	19	390	419	419	409	413	478
Molded case circuit breakers, 1,000 volts and under . . . . .	36135	37	948	952	959	917	955	1,017
Duct <sup>3</sup> . . . . .	36136	24	152	188	194	184	189	200
Switchgear, except ducts . . . . .	36139	121	1,100	1,319	1,324	1,398	1,615	1,459
General purpose and other relays . . . . .	36251	117	873	835	805	772	782	703
Specific purpose industrial controls . . . . .	36252	196	1,808	1,928	2,020	1,993	1,916	2,124
General purpose industrial controls . . . . .	36253	255	2,655	2,971	2,912	2,879	2,778	2,999
Motor controller accessories <sup>4</sup> . . . . .	36254	122	459	503	452	434	448	444

<sup>1</sup> Includes other switching and interruption devices, 1,000 volts and below. <sup>2</sup> Under 2,300 volts, except power distribution cutouts. <sup>3</sup> Includes plug-in units and accessories, 1,000 volts and under, consisting of enclosed sectionalized prefabricated bus bars rated 20 amperes or more, associated structures and fittings. <sup>4</sup> Includes parts for industrial controls.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA36A, annual.

### No. 1284. Selected Industrial Air Pollution Control Equipment—Shipments: 1993

[Quantity in number of units, value in millions of dollars]

PRODUCT	Product code	Number of com- panies	NEW ORDERS		SHIPMENTS		BACKLOG (Dec. 31)	
			Quantity	Value	Quantity	Value	Quantity	Value
			Selected industrial air pollution control equipment . . . . .	35646	107	66,504	667,138	65,737
Particulate emissions collectors . . . . .	(X)	85	54,876	447,899	54,343	466,801	5,480	212,457
Electrostatic precipitators . . . . .	35646 51	18	469	129,798	441	171,771	143	84,012
Fabric filters . . . . .	35646 54	53	48,248	217,365	47,463	207,073	4,482	59,266
Mechanical collectors . . . . .	35646 55	38	5,016	57,535	5,196	47,852	608	28,019
Wet scrubbers . . . . .	35646 58	30	1,143	43,201	1,243	40,105	247	40,800
Gaseous emissions control devices (X) . . . . .	(X)	35	1,000	152,740	1,012	226,530	266	329,044
Catalytic oxidation systems . . . . .	35646 70	11	96	18,202	117	20,249	38	8,250
Thermal and direct oxidation systems . . . . .	35646 72	15	270	32,990	294	32,499	22	8,665
Scrubbers (gas absorber) . . . . .	35646 73	11	577	12,004	528	11,110	152	3,719
Dry flue gas desulfurization systems . . . . .	35646 75	9	(D)	(D)	(D)	(D)	(D)	(D)
Gas absorbers . . . . .	35646 76	8	34	5,927	(D)	(D)	(D)	(D)
Other types of industrial air pollution control equipment . . . . .	35646 79	22	10,628	66,499	10,382	67,915	456	31,755

D Data withheld to avoid disclosure of company data. X Not applicable.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA35J, annual.

### No. 1285. Fluid Power Products—Shipments: 1988 to 1993

[In millions of dollars. Includes aerospace]

PRODUCT	Product code	1988	1989	1990	1991	1992	1993
Fluid power products, incl. aerospace . . . . .		6,785	6,915	7,207	6,475	6,330	6,490
Hydraulic valves, nonaerospace type . . . . .	34921	615	629	663	606	583	649
Pneumatic valves, nonaerospace type . . . . .	34922	445	463	458	434	458	503
Aerospace type hydraulic & pneumatic valves . . . . .	34923	400	451	498	527	443	357
Fittings for metal and plastic tubing <sup>1</sup> . . . . .	34924	460	505	500	471	516	557
Hydraulic and pneumatic fittings and couplings for hose (nonaerospace) . . . . .	34925	649	625	620	552	630	663
Hydraulic and pneumatic hose or tube end fitting and assemblies (aerospace) . . . . .	34926	327	336	394	386	354	302
Parts for hydraulic & pneumatic valves . . . . .	34927	219	206	209	161	151	125
Filters for hydraulic and pneumatic fluid power systems . . . . .	35692	310	352	385	409	395	434
Hydraulic and pneumatic cylinders etc.: Nonaerospace . . . . .	35931	907	909	941	800	864	975
Aerospace . . . . .	35932	636	646	636	510	479	457
Parts for hydraulic and pneumatic cylinders . . . . .	35933	291	281	264	269	171	168
Hydraulic fluid power pumps and motors . . . . .	35941	1,178	1,180	1,240	997	974	1,014
Parts for pumps and motors . . . . .	35942	348	333	399	354	312	285

<sup>1</sup> Used in fluid and power transfer systems (nonaerospace). <sup>2</sup> Includes parts for actuators, accumulators, cushions, and nonvehicular shock absorbers.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA35N, annual.

## No. 1286. Selected Instruments and Related Products—Shipments: 1987 to 1993

[In millions of dollars]

PRODUCT	Product code	1987	1988	1989	1990	1991	1992	1993
Automatic regulating and control valves . . . . .	34918	1,221	1,262	1,331	1,418	1,537	1,579	1,586
Solenoid-operated valves (except nuclear and fluid power transfer) . . . . .	34919	327	338	374	346	360	405	408
Aeronautical, nautical, and navigational instruments . . . . .	38121	2,270	2,365	2,521	2,518	2,672	2,519	2,146
Search & detection, navigation & guidance systems and equipment . . . . .	38122	30,911	31,145	30,840	32,420	31,774	31,311	28,678
Laboratory, apparatus and laboratory furniture <sup>1</sup> . . . . .	38210	1,549	1,565	1,698	1,675	1,612	1,715	1,587
Controls for monitoring residential and commercial environments and appliance . . . . .	38220	2,093	2,207	2,224	1,982	1,982	2,197	2,270
Process control instruments . . . . .	38230	4,084	4,348	4,743	5,224	5,230	5,731	5,918
Integrating and totalizing meters for gas and liquids . . . . .	38242	589	610	647	725	698	727	739
Counting devices . . . . .	38243	198	193	206	210	226	273	290
Motor vehicle instruments <sup>2</sup> . . . . .	38244	232	682	637	1,457	1,330	1,576	1,702
Integrating instruments, electrical . . . . .	38251	401	388	401	396	390	439	461
Test equipment for testing electrical, radio and communication circuits, and motors . . . . .	38252	6,144	6,248	6,134	6,156	6,525	6,493	6,626
Instruments to measure electricity . . . . .	38253	647	663	620	586	584	558	526
Analytical, scientific instruments (except optical) . . . . .	38260	3,046	3,442	4,042	4,412	4,519	4,886	4,999
Sighting, tracking, and fire-control equipment, optical type . . . . .	38271	726	609	595	581	547	771	731
Optical instruments and lenses <sup>3</sup> . . . . .	38274	1,215	1,270	1,274	1,252	1,292	1,322	1,318
Aircraft engine instruments (except flight) . . . . .	38291	520	505	508	579	682	590	554
Physical properties and kinematic testing equip.. . . .	38292	859	894	946	1,012	1,024	1,149	1,171
Nuclear radiation detection and monitoring instruments . . . . .	38294	637	654	606	567	570	533	520
Commercial, geophysical, meteorological, and general purpose instruments . . . . .	38295	358	1,072	1,035	1,140	1,335	1,361	1,215
Surveying and drafting instruments . . . . .	38296	247	270	270	274	235	255	304

<sup>1</sup> Beginning 1987, includes laboratory furniture. Prior to 1987, laboratory furniture was included in product class 38296.  
<sup>2</sup> Beginning 1990, includes some data previously classified in product class 37149, "Other motor vehicle parts and accessories, new, n.e.c." <sup>3</sup> Beginning 1992, product classes 38272, "Binoculars and astronomical instruments," and 38273, "Other optical instruments and lenses" were combined into product class 38274; prior years have been restated to reflect revision.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA38B, annual.

## No. 1287. Robots—Shipments: 1987 to 1989

[Based on a survey of all known manufacturers of robots, robot accessories, and components. Shipment value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges and returns. A robot is a reprogrammable multifunctional manipulator designed to move materials, parts, tools, or specialized devices through variable programmed motions for the performance of a variety of tasks]

ROBOTS, ACCESSORIES, AND COMPONENTS	QUANTITY (number)			VALUE (mil. dol.)		
	1987	1988	1989	1987	1988	1989
Robots, robot accessories, and components . . . . .	(X)	(X)	(X)	284	238	256
Robots, complete . . . . .	6,037	4,603	2,217	220	164	151
Servo-controlled robots . . . . .	2,677	2,072	1,840	203	138	136
Point-to-point type:						
Welding, etc. . . . .	675	304	273	65	32	29
Foundry, forging, and/or heat treating <sup>1</sup> . . . . .	28	31	34	3	3	9
Assembly for nonelectronic/elec. prods. . . . .	535	296	238	20	8	8
Material handling and/or parts transfer . . . . .	726	247	162	48	27	26
Continuous-path type:						
Welding, etc. . . . .	110	79	31	9	4	2
Spraying, painting, gluing, and/or sealing . . . . .	297	292	254	41	30	35
Fetting/grinding/polishing, and/or deburring <sup>2</sup> . . . . .	306	823	848	17	33	26
Nonservo-controlled robots . . . . .	215	336	377	8	17	15
Other robots . . . . .	3,145	2,195	( <sup>3</sup> )	9	9	( <sup>3</sup> )
Robot accessories, subassemblies, etc . . . . .	(X)	(X)	(X)	65	74	105
Miscellaneous receipts . . . . .	(X)	(X)	(X)	8	6	3

X Not applicable. <sup>1</sup> Includes all point-to-point robots, except assembly, material handling, and/or parts transfer.  
<sup>2</sup> Includes other continuous-path type, not elsewhere classified. <sup>3</sup> Beginning 1989, data no longer available for other robots which included education hobby, experimental, and nonindustrial robots.

Source: U.S. Bureau of the Census, *Current Industrial Reports*, MA35X(89-1).