

FEDERAL RESERVE statistical release



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INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production fell 1.0 percent in September, its twelfth consecutive monthly decline. At 140.3 percent of its 1992 average, output was 5.8 percent below its level in September 2000. For the third quarter as a whole, total industrial production declined at an annual rate of 6.2 percent. Manufacturing output contracted 1.1 percent in September and was 6.7 percent below its year-ago level. Utilities production fell 1.8 percent in September, and mining output increased 0.3 percent. The rate of capacity utilization for total industry sank 0.9 percentage point, to 75.5 percent, a level 6.6 percentage points below its 1967–2000 average and about 7 percentage points below its level in September 2000.

Market Groups

The output of consumer goods fell 0.7 percent in September; for the third quarter as a whole, production dropped 3.2 percent at an annual rate, the largest quarterly decline since the first quarter of 1991. Both durable and

(over)

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

| | 1992=100 | | | | Percent change | | | | Sept. '00 to Sept. '01 |
|------------------------------|------------------------|-------------------|-------------------|--------------------|------------------------|-------------------|-------------------|--------------------|------------------------|
| | 2001 June ^r | July ^r | Aug. ^r | Sept. ^P | 2001 June ^r | July ^r | Aug. ^r | Sept. ^P | |
| Industrial production | | | | | | | | | |
| Total index | 142.8 | 142.7 | 141.8 | 140.3 | -1.0 | -.1 | -.7 | -1.0 | -5.8 |
| Previous estimates | 142.7 | 142.6 | 141.5 | | -1.0 | -.1 | -.8 | | |
| <u>Major market groups</u> | | | | | | | | | |
| Products, total | 132.4 | 132.5 | 131.3 | 129.9 | -.9 | .0 | -.8 | -1.1 | -5.0 |
| Consumer goods | 121.6 | 121.9 | 120.9 | 120.1 | -.5 | .2 | -.8 | -.7 | -3.0 |
| Business equipment | 187.1 | 186.7 | 184.8 | 180.5 | -2.5 | -.2 | -1.0 | -2.3 | -9.5 |
| Construction supplies | 139.0 | 139.0 | 138.5 | 137.6 | -.2 | .0 | -.4 | -.6 | -3.9 |
| Materials | 161.4 | 161.1 | 160.5 | 159.2 | -1.1 | -.2 | -.4 | -.9 | -7.1 |
| <u>Major industry groups</u> | | | | | | | | | |
| Manufacturing | 147.5 | 147.6 | 146.3 | 144.7 | -1.2 | .1 | -.9 | -1.1 | -6.7 |
| Durable | 186.9 | 187.6 | 185.7 | 182.5 | -1.7 | .3 | -1.0 | -1.8 | -8.0 |
| Nondurable | 111.5 | 111.3 | 110.5 | 110.1 | -.6 | -.2 | -.7 | -.3 | -5.0 |
| Mining | 103.4 | 102.3 | 102.0 | 102.3 | -.4 | -1.0 | -.3 | .3 | 1.8 |
| Utilities | 119.9 | 119.0 | 121.3 | 119.1 | .3 | -.7 | 1.9 | -1.8 | -2.1 |
| | | | | | | | | | |
| | | | | | Percent of capacity | | | | Capacity growth |
| Capacity utilization | Average 1967–2000 | 1982 low | 1988–89 high | 2000 Sept. | 2001 June ^r | July ^r | Aug. ^r | Sept. ^P | Sept. '00 to Sept. '01 |
| Total industry | 82.1 | 71.1 | 85.4 | 82.4 | 77.1 | 77.0 | 76.4 | 75.5 | 2.9 |
| Previous estimates | | | | | 77.1 | 76.9 | 76.2 | | |
| Manufacturing | 81.1 | 69.0 | 85.7 | 81.7 | 75.6 | 75.5 | 74.8 | 73.8 | 3.2 |
| Advanced processing | 80.6 | 71.0 | 84.2 | 80.2 | 76.1 | 76.0 | 75.3 | 74.3 | 2.0 |
| Primary processing | 82.2 | 65.7 | 88.3 | 85.2 | 75.8 | 75.6 | 74.8 | 74.0 | 5.4 |
| Mining | 87.4 | 80.3 | 88.0 | 86.4 | 90.0 | 89.2 | 89.0 | 89.3 | -1.4 |
| Utilities | 87.6 | 75.9 | 92.6 | 91.0 | 87.2 | 86.3 | 87.6 | 85.7 | 3.9 |

nondurable consumer goods fell in September. Among durables, home electronics dropped 3.0 percent and was 19.1 percent below its level in September 2000. The output of automotive products also fell about 3 percent, while the other major categories of consumer durables registered smaller declines. Nondurable consumer goods, which slipped 0.3 percent, showed declines in all categories except paper products, which increased 0.4 percent.

The production of business equipment dropped 2.3 percent in September; for the third quarter as a whole, it tumbled 13.4 percent at an annual rate, its largest quarterly decline since the fourth quarter of 1982. All major categories declined in September; the output indexes for transit equipment and for industrial and other equipment have contracted nearly 12 percent in the past twelve months. The production of defense and space equipment, which ticked up 0.2 percent in September, was 3.6 percent above its September 2000 level.

The output of construction supplies decreased 0.6 percent in September, while the output of business supplies fell 1.5 percent; a sharp cutback in jet fuel production, which was related to the reduction in air traffic, contributed importantly to the drop for business supplies. The production of industrial materials declined 0.9 percent, with a large drop in durable goods materials and little change, on balance, in either nondurable or energy materials. For the third quarter as a whole, production of industrial materials fell at an annual rate of 6.4 percent.

Industry Groups

Manufacturing output fell 1.1 percent in September and the weakness was widespread among industries. In the third quarter, manufacturing declined at an annual rate of 6.6 percent, after having fallen at a 5.1 percent rate in the second quarter. The overall production both of durable and nondurable goods decreased in the third quarter; output rose during the quarter in only two industries—motor vehicles and parts and lumber and products. Among durable goods, the largest third-quarter declines were in machinery, especially the high-technology industries (computers, communications equipment, and semiconductors). Also down notably were furniture and fixtures, primary metals, aerospace and miscellaneous transportation equipment, and miscellaneous manufacturing. Among nondurables, declines were largest in apparel products, textile mill products, petroleum products, printing and publishing, and paper and products. In September, all major industry groups in manufacturing were below year-ago levels. The overall factory operating rate declined about 1 percentage point, to 73.8 percent, a level 7.3 percentage points below the 1967–2000 average.

A 0.3 percent increase in the production at mines retraced the August decline; the utilization rate at mines rose 0.3 percentage point, to 89.3 percent, a level about 2 percentage points above its 1967–2000 average. The output of utilities fell back 1.8 percent in September; at 85.7 percent, the operating rate at utilities was about 2 percentage points below its long-term average.

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Further detail is available on the Board's web site (www.federalreserve.gov/releases/G17/).

Revision of Industrial Production and Capacity Utilization

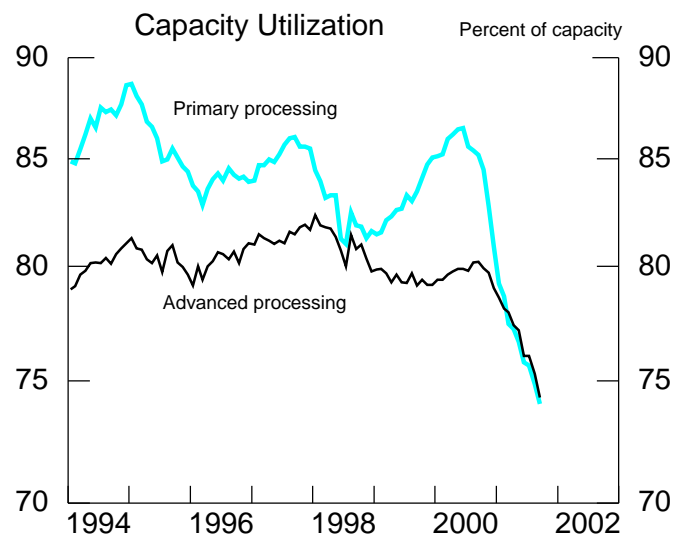
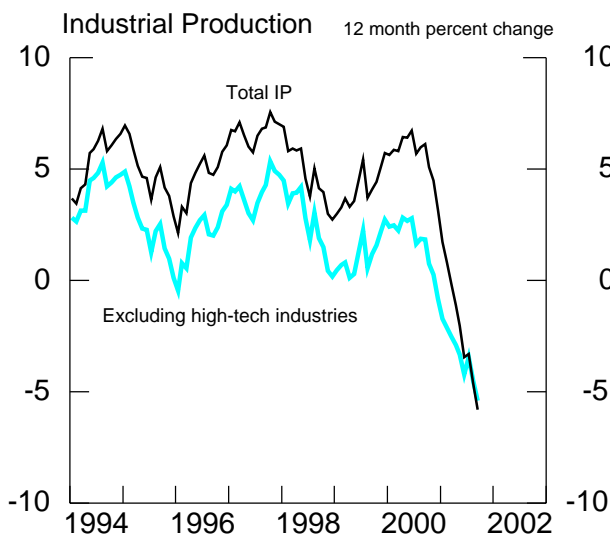
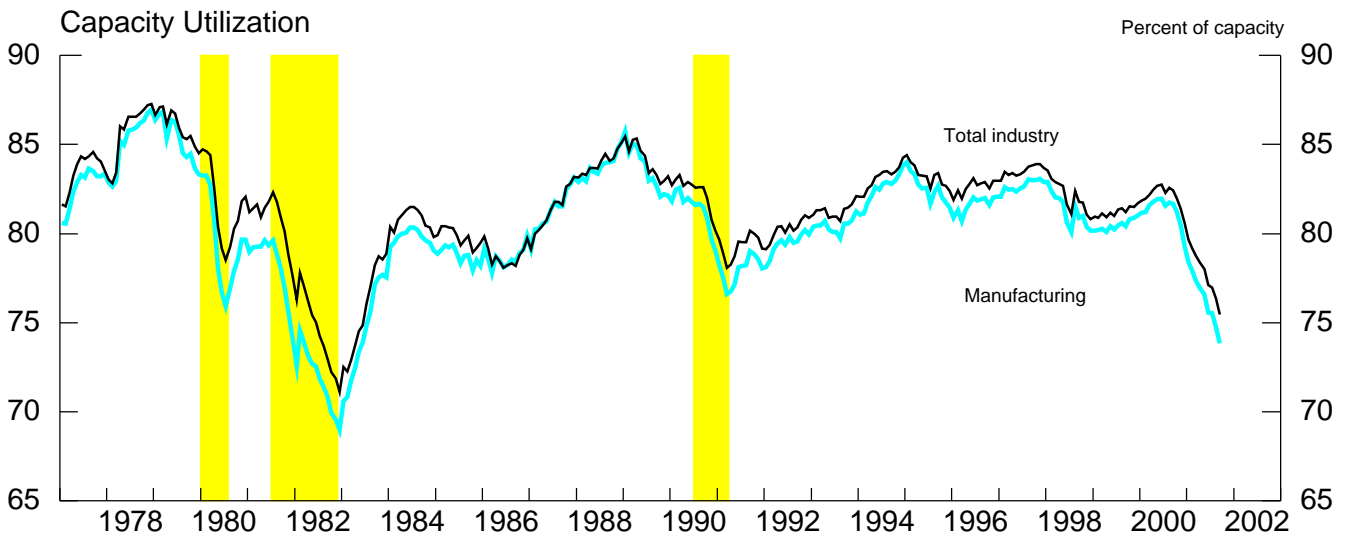
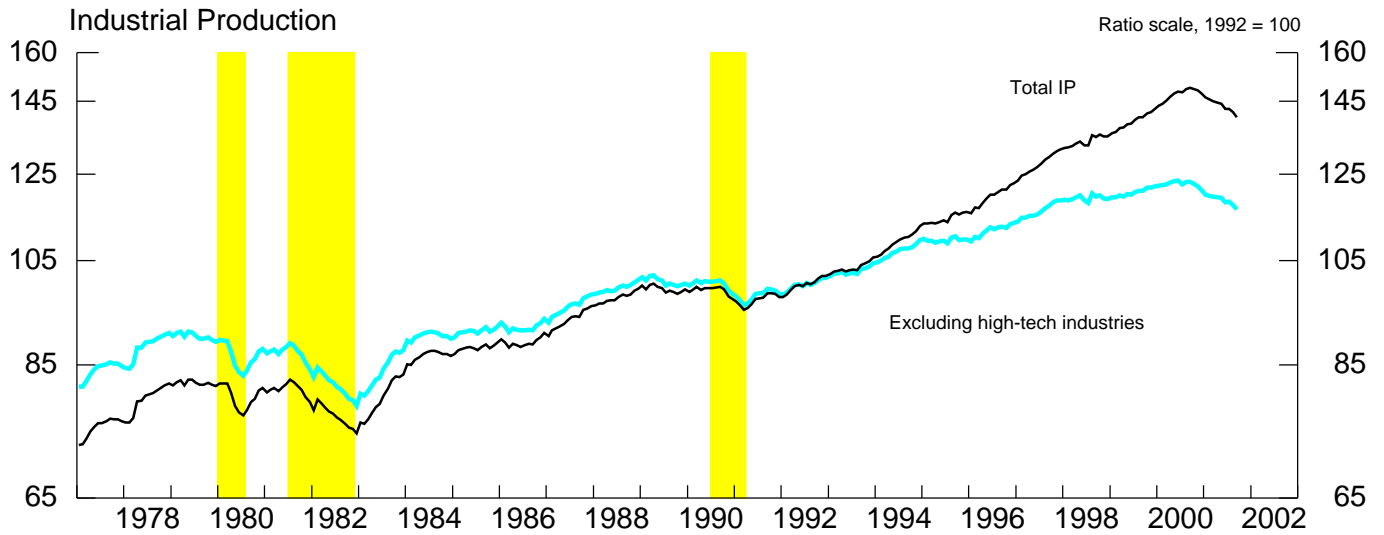
On November 27, the Federal Reserve Board will publish revisions to the index of industrial production (IP), to the related measures of capacity and capacity utilization, and to the index of industrial use of electric power. The updated measures will reflect the incorporation of newly available, more comprehensive source data typical of annual revisions. The new source data are for recent years, primarily 1999 and 2000, although data from 1992 onward will be subject to revision.

Industrial production and capacity utilization will continue to be based on the 1987 Standard Industrial Classification (SIC) until the 2002 annual revision, after which they will be constructed from the North American Industrial Classification System (NAICS). The new NAICS-related production indexes will be based on annual output measures that are constructed by reclassifying the establishments in historical Censuses of Manufactures and Mineral Industries under NAICS; annual output indexes constructed this way will maximize the reliability and historical consistency of the IP industry detail.

The updating of source data for IP in the 2001 annual revision will include annual data from the 1999 Bureau of the Census Annual Survey of Manufactures and from selected editions of its 1999 and 2000 Current Industrial Reports. Annual data from the U.S. Geological Survey regarding metallic and nonmetallic minerals (except fuels) for 1999 and 2000 will also be introduced. The updating will include revisions to the monthly indicator for each industry (either physical product data, production-worker hours, or electric power usage) and to seasonal factors.

Capacity and capacity utilization will be revised to incorporate preliminary data from the 2000 Survey of Plant Capacity of the Bureau of the Census, which covers manufacturing, along with other new data on capacity from the U.S. Geological Survey, the Department of Energy, and other organizations. The statistics on the industrial use of electric power will incorporate additional information received from utilities for the past few years and will include some data from the 1997 Census of Manufactures and the 1998 and 1999 Annual Survey of Manufactures.

Once the revision is published, it will be made available on the Board's web site (www.federalreserve.gov/releases/g17). The revised data will also be available through the web site of the Department of Commerce. Further information on these revisions is available from the Board's Industrial Output Section (telephone 202-452-3197).



High-tech industries are defined as semiconductors and related electronic components (SIC 3672-9), computers (SIC 357), and communications equipment (SIC 366).
 Shaded areas are periods of business recession as defined by the NBER.

Table 1
INDUSTRIAL PRODUCTION: MARKET AND INDUSTRY GROUP SUMMARY

Percent change, seasonally adjusted

| Item | 2000 proportion ¹ | Fourth quarter to fourth quarter | | | Annual rate | | | | Monthly rate | | | | Sept. '00 to Sept. '01 |
|---|---------------------------------|-------------------------------------|-------|-------|-------------|------------|-----------------|-----------------|---------------------------|-------------------|-------------------|--------------------|------------------------------|
| | | 1998 | 1999 | 2000 | 2000 Q4 | 2001 Q1 | Q2 ^r | Q3 ^p | 2001 June ^r | July ^r | Aug. ^r | Sept. ^p | |
| Total IP | 100.00 | 3.2 | 5.1 | 4.2 | -.9 | -6.8 | -4.4 | -6.2 | -1.0 | -.1 | -.7 | -1.0 | -5.8 |
| MARKET GROUPS | | | | | | | | | | | | | |
| Products | 60.78 | 3.2 | 3.4 | 3.0 | -.5 | -4.2 | -4.2 | -6.1 | -.9 | .0 | -.8 | -1.1 | -5.0 |
| Consumer goods | 28.73 | .2 | 3.1 | .6 | -2.4 | -1.8 | -.7 | -3.2 | -.5 | .2 | -.8 | -.7 | -3.0 |
| Durable | 6.10 | 4.3 | 8.2 | -4.4 | -13.1 | -9.6 | 8.5 | .3 | -1.0 | 2.2 | -2.0 | -2.1 | -7.1 |
| Automotive products | 2.88 | 5.4 | 3.3 | -6.9 | -21.9 | -13.1 | 25.6 | 13.5 | -.5 | 6.0 | -3.3 | -2.8 | -5.9 |
| Home electronics | .45 | 11.7 | 53.3 | 2.8 | 17.4 | -37.7 | -10.3 | -20.3 | -4.6 | -5.0 | 2.3 | -3.0 | -19.1 |
| Appliances, furniture, carpeting | 1.37 | 6.9 | 6.0 | -1.3 | -6.2 | 3.3 | -4.7 | -7.8 | -1.0 | -2.4 | 1.5 | -.3 | -5.3 |
| Miscellaneous goods | 1.41 | -2.5 | 4.6 | -4.2 | -9.7 | -3.8 | -2.6 | -11.0 | -1.0 | .7 | -3.6 | -1.9 | -7.9 |
| Nondurable | 22.63 | -1.0 | 1.6 | 2.0 | .6 | .3 | -2.9 | -4.1 | -.4 | -.3 | -.5 | -.3 | -1.9 |
| Non-energy | 19.19 | -.5 | 1.5 | 1.2 | -1.0 | .8 | -1.7 | -4.5 | -.5 | -.2 | -.7 | -.3 | -1.7 |
| Foods and tobacco | 9.97 | .6 | .2 | .9 | -2.0 | -.1 | -1.6 | -4.3 | .1 | -.3 | -.9 | -.2 | -2.0 |
| Clothing | 1.39 | -8.1 | -4.9 | -4.4 | -7.0 | -1.3 | -14.8 | -19.2 | -3.6 | .3 | -2.8 | -1.9 | -11.6 |
| Chemical products | 4.95 | 3.3 | 5.8 | 2.5 | 1.2 | 5.5 | 3.0 | -1.7 | -1.1 | -.1 | .1 | -.4 | 1.7 |
| Paper products | 2.88 | -5.4 | 2.6 | 3.1 | 1.5 | -3.2 | -3.6 | -3.1 | -.2 | -.1 | -.7 | .4 | -2.1 |
| Energy | 3.44 | -4.1 | 2.5 | 6.7 | 10.0 | -2.3 | -9.1 | -2.2 | .6 | -.6 | .8 | -.6 | -2.6 |
| Business equipment | 14.25 | 9.1 | 5.7 | 11.0 | 5.2 | -7.5 | -10.4 | -13.4 | -2.5 | -.2 | -1.0 | -2.3 | -9.5 |
| Transit | 2.60 | 12.9 | -8.9 | -8.8 | -20.5 | -17.5 | 7.4 | -3.6 | -.9 | 2.1 | -2.8 | -2.5 | -11.8 |
| Information processing | 5.92 | 16.8 | 21.0 | 23.1 | 18.5 | -3.6 | -11.1 | -15.1 | -2.6 | -1.6 | .0 | -1.4 | -6.4 |
| Industrial and other | 5.73 | -.1 | -1.5 | 8.6 | 4.4 | -7.4 | -16.3 | -15.6 | -3.1 | .2 | -1.2 | -3.1 | -11.8 |
| Defense and space equipment | 1.94 | 8.2 | -3.1 | -3.3 | 3.6 | 5.7 | -3.1 | -2.0 | -.5 | 1.3 | -1.5 | .2 | 3.6 |
| Construction supplies | 6.13 | 7.6 | 4.5 | .3 | -4.7 | -3.1 | -3.0 | -2.7 | -.2 | .0 | -.4 | -.6 | -3.9 |
| Business supplies | 9.02 | 1.8 | 2.3 | 1.3 | -.5 | -10.3 | -7.5 | -6.3 | -.6 | -.5 | -.7 | -1.5 | -7.2 |
| Materials | 39.22 | 3.7 | 8.0 | 6.2 | -1.6 | -10.6 | -4.7 | -6.4 | -1.1 | -.2 | -.4 | -.9 | -7.1 |
| Durable | 22.78 | 7.2 | 10.9 | 12.1 | -1.0 | -12.4 | -4.9 | -7.4 | -1.4 | .0 | -.7 | -1.6 | -8.7 |
| Consumer parts | 4.49 | .1 | 7.1 | .2 | -6.0 | -28.2 | 17.4 | .0 | -1.5 | 1.4 | -.4 | -3.1 | -9.8 |
| Equipment parts | 8.68 | 20.5 | 22.0 | 36.1 | 11.5 | -4.8 | -16.0 | -13.4 | -2.1 | -.8 | -.9 | -1.4 | -8.5 |
| Other | 9.61 | -.6 | 3.4 | -1.7 | -9.8 | -11.9 | -3.2 | -5.2 | -.8 | -.1 | -.6 | -1.0 | -8.6 |
| Nondurable | 8.38 | -2.8 | 5.6 | -5.2 | -7.7 | -15.1 | -10.2 | -5.0 | -.6 | .0 | -.2 | -.1 | -9.4 |
| Textile | .73 | -8.5 | -1.2 | -9.7 | -23.8 | -10.8 | -17.7 | -14.0 | -.4 | -4.4 | 3.5 | -.8 | -14.6 |
| Paper | 1.53 | -2.9 | 4.2 | -4.5 | -1.8 | -12.6 | -4.9 | -.7 | -3.4 | 2.2 | 1.1 | .1 | -4.6 |
| Chemical | 4.31 | -4.0 | 9.4 | -6.2 | -11.7 | -18.5 | -15.5 | -6.1 | .8 | -.7 | -1.1 | .1 | -13.0 |
| Energy | 8.06 | -.7 | .5 | 1.4 | 3.1 | -.6 | 1.5 | -5.2 | -.9 | -.7 | .3 | .2 | -.6 |
| INDUSTRY GROUPS | | | | | | | | | | | | | |
| Manufacturing | 87.40 | 4.0 | 5.6 | 4.3 | -1.6 | -7.9 | -5.1 | -6.6 | -1.2 | .1 | -.9 | -1.1 | -6.7 |
| Durable | 47.81 | 8.0 | 8.2 | 8.4 | -.4 | -9.6 | -5.2 | -7.8 | -1.7 | .3 | -1.0 | -1.8 | -8.0 |
| Lumber and products | 24 | 1.82 | 5.4 | .5 | -7.3 | -12.4 | -12.0 | 12.6 | 7.9 | -.1 | .7 | .2 | -.8 |
| Furniture and fixtures | 25 | 1.61 | 6.2 | 3.1 | 5.6 | 4.2 | -5.6 | -4.7 | -11.1 | -2.4 | .0 | -1.4 | -7.5 |
| Stone, clay, and glass products | 32 | 2.38 | 5.6 | 2.3 | .9 | -4.3 | -.6 | -4.1 | -4.1 | -1.7 | .1 | -.5 | .2 |
| Primary metals | 33 | 3.32 | -3.4 | 8.0 | -5.6 | -16.5 | -18.9 | 3.9 | -6.8 | -.6 | .5 | -1.4 | -2.7 |
| Fabricated metals | 34 | 5.49 | 1.5 | 1.6 | 1.0 | -4.6 | -9.5 | -8.3 | -5.3 | -1.4 | .8 | -.7 | -1.8 |
| Industrial machinery and equipment | 35 | 9.06 | 11.6 | 13.6 | 14.4 | 7.4 | -8.2 | -15.6 | -15.5 | -2.5 | -.6 | -.5 | -2.8 |
| Electrical machinery | 36 | 9.02 | 20.4 | 25.2 | 39.0 | 16.7 | -7.1 | -19.0 | -17.7 | -2.4 | -2.2 | -.3 | -1.8 |
| Motor vehicles and parts | 371 | 5.72 | 3.3 | 5.9 | -6.4 | -23.6 | -27.2 | 37.4 | 8.6 | -1.3 | 4.8 | -3.0 | -3.6 |
| Aerospace and miscellaneous transportation equipment | 372-6.9 | 3.52 | 10.4 | -11.6 | -.4 | 5.4 | -3.0 | -3.4 | -6.8 | -.9 | .1 | -1.0 | -.7 |
| Instruments | 38 | 4.54 | 3.9 | 4.5 | 1.9 | 1.8 | -.3 | -5.7 | -3.2 | -1.9 | .9 | -.3 | .1 |
| Miscellaneous | 39 | 1.31 | .7 | 6.6 | .0 | -3.1 | -5.2 | -2.7 | -6.5 | 1.0 | .7 | -3.6 | -.5 |
| Nondurable | 39.59 | -.4 | 2.5 | -.7 | -3.0 | -5.9 | -4.9 | -5.3 | -.6 | -.2 | -.7 | -.3 | -5.0 |
| Food and tobacco products | 20,21 | 10.52 | .8 | .3 | .8 | -2.0 | -.2 | -2.0 | -3.8 | .0 | -.3 | -.8 | -.2 |
| Textile mill products | 22 | 1.23 | -6.5 | -.2 | -7.9 | -18.8 | -8.2 | -16.4 | -14.2 | .4 | -3.9 | 2.3 | -.9 |
| Apparel products | 23 | 1.41 | -6.3 | -4.0 | -5.3 | -8.0 | -.8 | -7.0 | -16.6 | -3.1 | .8 | -3.7 | -1.9 |
| Paper and products | 26 | 3.30 | -.1 | 3.0 | -3.1 | 3.2 | -13.4 | 1.2 | -7.4 | -1.9 | .9 | -1.2 | .3 |
| Printing and publishing | 27 | 6.58 | -1.8 | 1.8 | 1.5 | .8 | -10.0 | -10.2 | -7.7 | -1.2 | -.6 | -.4 | -.7 |
| Chemicals and products | 28 | 10.33 | .2 | 6.7 | -1.3 | -2.8 | -8.2 | -6.2 | -2.3 | -.6 | .1 | -.5 | .0 |
| Petroleum products | 29 | 2.39 | 2.1 | .2 | 1.2 | -4.5 | -1.7 | 3.5 | -8.5 | .4 | -.9 | -1.8 | -.8 |
| Rubber and plastics products | 30 | 3.65 | 1.6 | 3.6 | -1.9 | -9.7 | -4.9 | -5.6 | -1.4 | .3 | -.1 | -.4 | -.2 |
| Mining | 10-14 | 6.69 | -5.3 | -.5 | 1.3 | -1.5 | 6.0 | 7.5 | -5.3 | -.4 | -1.0 | -.3 | .3 |
| Utilities | 491,2,3pt | 5.91 | -1.4 | 2.3 | 6.5 | 9.3 | -3.4 | -7.9 | -1.0 | .3 | -.7 | 1.9 | -1.8 |
| Electric | | 4.45 | 1.6 | 1.7 | 6.3 | 12.1 | -6.6 | .5 | -4.2 | -.5 | -.9 | 2.5 | -2.7 |
| Gas | | 1.46 | -11.9 | 4.6 | 7.5 | .7 | 7.2 | -29.3 | 9.3 | 2.9 | -.2 | -.1 | .8 |

NOTE. Under industry groups, the figures to the right of the series descriptions are 1987 Standard Industrial Classification (SIC) codes. The abbreviation pt denotes part of an SIC code. Additional industry detail is available on the Board's web site (www.federalreserve.gov/releases/G17). Under market groups, in the products category, oil and gas drilling and manufactured homes are not shown separately; in the nondurable materials category, containers and miscellaneous nondurable materials are not shown separately. Under industry groups, in the nondurables category, leather and products (SIC 31) is not shown separately.

1. The proportion data are estimates of the relative contribution of each series to the growth of total industrial production in the following year.

r Revised. p Preliminary.

Table 2
INDUSTRIAL PRODUCTION: SPECIAL AGGREGATES AND SELECTED DETAIL

Percent change, seasonally adjusted

| Item | 2000 proportion | Fourth quarter to fourth quarter | | | Annual rate | | | | Monthly rate | | | | Sept. '00 to Sept. '01 |
|---|-----------------|----------------------------------|------|------|-------------|---------|-----------------|-----------------|------------------------|-------------------|-------------------|--------------------|------------------------|
| | | 1998 | 1999 | 2000 | 2000 Q4 | 2001 Q1 | Q2 ^r | Q3 ^p | 2001 June ^f | July ^f | Aug. ^f | Sept. ^p | |
| Total industry | 100.00 | 3.2 | 5.1 | 4.2 | -9 | -6.8 | -4.4 | -6.2 | -1.0 | -.1 | -.7 | -1.0 | -5.8 |
| Energy | 13.92 | -3.1 | 1.2 | 4.1 | 4.2 | -.2 | -.2 | -4.2 | -.2 | -.8 | .3 | -.5 | -.8 |
| Consumer products | 3.44 | -4.1 | 2.5 | 6.7 | 10.0 | -2.3 | -9.1 | -2.2 | .6 | -.6 | .8 | -.6 | -2.6 |
| Commercial products | 1.90 | -.5 | 1.0 | 7.2 | -2.7 | -3.5 | 7.6 | 1.4 | 1.9 | -1.4 | .3 | -2.9 | -.5 |
| Oil and gas well drilling | .52 | -26.3 | 5.6 | 18.9 | 8.5 | 33.3 | 7.8 | -19.4 | -1.2 | -1.8 | -3.2 | -2.6 | 4.9 |
| Converted fuel | 2.28 | -.2 | 2.8 | 5.2 | 12.9 | -15.5 | -3.7 | -13.4 | -4.0 | -.5 | .4 | -.1 | -7.4 |
| Primary materials | 5.78 | -1.0 | -.7 | -.2 | -.6 | 5.9 | 3.4 | -2.1 | .2 | -.7 | .2 | .3 | 2.1 |
| Non-energy | 86.08 | 4.1 | 5.6 | 4.2 | -1.8 | -7.8 | -5.1 | -6.6 | -1.2 | .1 | -.8 | -1.1 | -6.6 |
| Selected high-technology industries | 8.47 | 37.2 | 40.6 | 55.3 | 25.2 | -6.1 | -20.8 | -21.0 | -2.5 | -2.1 | -1.0 | -2.4 | -11.3 |
| Computers and office equipment | 357 | 2.37 | 54.0 | 54.3 | 42.0 | 24.8 | -3.5 | -12.8 | -14.3 | -1.7 | -.8 | -.5 | -2.5 |
| Communications equipment | 366 | 1.94 | 9.0 | 13.4 | 35.5 | 30.2 | -1.7 | -17.1 | -24.8 | -1.9 | -3.7 | -.9 | -2.3 |
| Semiconductors and related electronic components | 3672-9 | 4.16 | 45.7 | 47.8 | 73.4 | 23.3 | -9.6 | -26.9 | -22.8 | -3.3 | -2.0 | -1.3 | -2.3 |
| Excluding selected high-technology industries | 77.61 | 1.2 | 2.3 | -.7 | -4.7 | -8.1 | -3.1 | -5.0 | -1.0 | .3 | -.8 | -1.0 | -6.3 |
| Motor vehicles and parts | 371 | 5.72 | 3.3 | 5.9 | -6.4 | -23.6 | -27.2 | 37.4 | 8.6 | -1.3 | 4.8 | -3.0 | -3.6 |
| Motor vehicles | 3711,3 | 3.10 | 6.9 | 2.1 | -12.3 | -33.7 | -17.7 | 37.1 | 12.3 | -1.8 | 7.9 | -5.3 | -3.9 |
| Motor vehicle parts | 3714 | 2.48 | -1.6 | 10.8 | 3.3 | -7.1 | -35.6 | 39.5 | 5.3 | -1.2 | 1.8 | -.6 | -3.2 |
| Excluding motor vehicles and parts | 71.88 | 1.1 | 2.0 | -.2 | -3.1 | -6.5 | -5.6 | -6.0 | -1.0 | -.1 | -.6 | -.8 | -5.9 |
| Consumer goods | 22.73 | -.4 | 2.5 | .4 | -1.7 | -.1 | -1.8 | -5.1 | -.6 | -.3 | -.8 | -.4 | -2.5 |
| Business equipment | 9.48 | 3.3 | -2.4 | 5.3 | 3.8 | -8.3 | -12.4 | -12.4 | -3.0 | .0 | -.5 | -2.1 | -9.5 |
| Business supplies | 7.13 | 2.3 | 2.6 | -.1 | .1 | -12.1 | -11.4 | -8.5 | -1.3 | -.2 | -1.0 | -1.0 | -9.1 |
| Materials | 24.30 | -1.0 | 3.3 | -2.3 | -7.4 | -11.4 | -5.8 | -4.8 | -.8 | .1 | -.4 | -.7 | -8.0 |
| Measures excluding selected high-technology industries | | | | | | | | | | | | | |
| Total industry | 91.53 | .7 | 2.2 | .0 | -3.4 | -6.9 | -2.7 | -4.9 | -.9 | .1 | -.6 | -.9 | -5.4 |
| Manufacturing | 78.92 | 1.2 | 2.3 | -.5 | -4.5 | -8.2 | -3.2 | -5.1 | -1.0 | .3 | -.9 | -1.0 | -6.3 |
| Durable | 39.34 | 2.7 | 2.2 | -.4 | -5.9 | -10.5 | -1.3 | -4.9 | -1.5 | .8 | -1.0 | -1.6 | -7.6 |
| Industrial machinery | 351-6,8,9 | 6.69 | .5 | 1.2 | 4.9 | .9 | -10.1 | -16.5 | -15.9 | -2.7 | -.5 | -.4 | -2.9 |
| Electrical machinery | 361-5,9,71 | 2.92 | -.3 | 6.5 | .1 | -1.7 | -7.0 | -8.1 | -5.7 | -1.5 | -1.5 | 1.3 | -.9 |
| Measures excluding motor vehicles and parts | | | | | | | | | | | | | |
| Total industry | 94.28 | 3.2 | 5.0 | 4.9 | .6 | -5.5 | -6.3 | -7.0 | -1.0 | -.3 | -.5 | -.9 | -5.5 |
| Manufacturing | 81.67 | 4.1 | 5.5 | 5.0 | .1 | -6.6 | -7.3 | -7.6 | -1.1 | -.2 | -.7 | -.9 | -6.4 |
| Durable | 42.09 | 8.7 | 8.5 | 10.5 | 3.1 | -7.2 | -9.5 | -9.8 | -1.7 | -.3 | -.7 | -1.5 | -7.8 |
| Primary processing¹ | 34.36 | 4.3 | 8.8 | 5.6 | -3.6 | -13.0 | -5.2 | -6.4 | -.9 | .0 | -.9 | -.9 | -8.4 |
| Advanced processing² | 53.04 | 3.9 | 3.7 | 3.4 | -.2 | -4.6 | -5.0 | -6.8 | -1.3 | .1 | -.9 | -1.2 | -5.5 |

NOTE. See notes to table 1.

1. Primary processing consists of textile mill products, paper and products, industrial chemicals, synthetic materials, and fertilizers, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metals, stone, clay, and glass products, semiconductors and related electronic components, and motor vehicle parts.

2. Advanced processing consists of foods, tobacco products, apparel products, printing and publishing, chemical products and other agricultural chemicals, leather and products, furniture and fixtures, industrial machinery and equipment, electrical machinery except semiconductors and related electronic components, transportation equipment except motor vehicle parts, instruments, and miscellaneous manufactures.

Table 3
MOTOR VEHICLE ASSEMBLIES

Millions of units, seasonally adjusted annual rate

| Item | 2000 average | 2000 Q4 | 2001 Q1 | Q2 | Q3 | 2001 June | July | Aug. | Sept. |
|------------------------|--------------|---------|---------|-------|-------|-----------|-------|-------|-------|
| Total | 12.77 | 11.63 | 10.92 | 11.70 | 11.64 | 11.72 | 12.05 | 11.63 | 11.23 |
| Autos | 5.54 | 5.00 | 4.96 | 5.10 | 4.70 | 5.11 | 4.86 | 4.62 | 4.64 |
| Trucks | 7.23 | 6.63 | 5.97 | 6.60 | 6.93 | 6.61 | 7.20 | 7.01 | 6.59 |
| Light | 6.84 | 6.32 | 5.69 | 6.33 | 6.69 | 6.34 | 6.93 | 6.75 | 6.37 |
| Medium and heavy | .39 | .31 | .27 | .27 | .25 | .27 | .26 | .26 | .22 |
| MEMO | | | | | | | | | |
| Autos and light trucks | 12.38 | 11.32 | 10.65 | 11.43 | 11.39 | 11.45 | 11.79 | 11.37 | 11.01 |

NOTE. Seasonal factors and underlying data for auto, light truck, and medium and heavy truck production are available on the Board's web site, www.federalreserve.gov/releases/G17/mvsf.htm

Table 4
INDUSTRIAL PRODUCTION INDEXES: MARKET AND INDUSTRY GROUP SUMMARY

1992 = 100, seasonally adjusted

| Item | 2000 proportion | 2001 Jan. | Feb. | Mar. | Apr. | May | June ^f | July ^f | Aug. ^f | Sept. ^p |
|---|--------------------|--------------|-------|-------|-------|-------|-------------------|-------------------|-------------------|--------------------|
| Total IP | 100.00 | 146.0 | 145.4 | 145.0 | 144.6 | 144.2 | 142.8 | 142.7 | 141.8 | 140.3 |
| MARKET GROUPS | | | | | | | | | | |
| Products | 60.78 | 135.0 | 134.6 | 134.5 | 133.8 | 133.7 | 132.4 | 132.5 | 131.3 | 129.9 |
| Consumer goods | 28.73 | 121.8 | 122.3 | 122.4 | 122.1 | 122.2 | 121.6 | 121.9 | 120.9 | 120.1 |
| Durable | 6.10 | 148.9 | 150.8 | 153.6 | 152.9 | 155.6 | 154.1 | 157.5 | 154.3 | 151.2 |
| Automotive products | 2.88 | 133.8 | 138.2 | 145.4 | 145.1 | 148.7 | 148.0 | 156.9 | 151.7 | 147.5 |
| Home electronics | .45 | 749.6 | 690.6 | 661.7 | 663.3 | 707.1 | 674.9 | 640.9 | 655.5 | 636.1 |
| Appliances, furniture, carpeting | 1.37 | 132.1 | 135.8 | 135.1 | 132.7 | 133.4 | 132.1 | 128.9 | 130.8 | 130.4 |
| Miscellaneous goods | 1.41 | 116.5 | 115.4 | 114.7 | 115.0 | 115.3 | 114.1 | 115.0 | 110.9 | 108.7 |
| Nondurable | 22.63 | 114.9 | 115.3 | 114.8 | 114.6 | 114.2 | 113.8 | 113.5 | 112.9 | 112.5 |
| Non-energy | 19.19 | 114.3 | 114.6 | 114.2 | 114.1 | 114.1 | 113.5 | 113.2 | 112.4 | 112.1 |
| Foods and tobacco | 9.97 | 110.3 | 110.7 | 110.1 | 110.2 | 109.7 | 109.8 | 109.4 | 108.4 | 108.2 |
| Clothing | 1.39 | 82.6 | 82.8 | 82.2 | 81.2 | 79.8 | 76.9 | 77.1 | 74.9 | 73.5 |
| Chemical products | 4.95 | 139.1 | 141.5 | 141.5 | 140.9 | 143.0 | 141.4 | 141.3 | 141.4 | 140.8 |
| Paper products | 2.88 | 113.7 | 111.1 | 110.9 | 111.5 | 110.7 | 110.5 | 110.4 | 109.6 | 110.1 |
| Energy | 3.44 | 119.0 | 119.2 | 118.6 | 117.5 | 115.2 | 115.8 | 115.1 | 116.1 | 115.3 |
| Business equipment | 14.25 | 197.4 | 195.3 | 195.6 | 193.3 | 191.9 | 187.1 | 186.7 | 184.8 | 180.5 |
| Transit | 2.60 | 111.7 | 114.4 | 117.8 | 116.3 | 117.5 | 116.4 | 118.8 | 115.5 | 112.6 |
| Information processing | 5.92 | 337.4 | 330.6 | 327.7 | 326.7 | 324.3 | 315.8 | 310.9 | 310.8 | 306.3 |
| Industrial and other | 5.73 | 146.7 | 144.7 | 144.7 | 141.8 | 139.8 | 135.5 | 135.8 | 134.1 | 129.9 |
| Defense and space equipment | 1.94 | 78.5 | 76.7 | 77.7 | 78.0 | 76.8 | 76.4 | 77.4 | 76.2 | 76.3 |
| Construction supplies | 6.13 | 140.7 | 139.9 | 140.5 | 139.6 | 139.3 | 139.0 | 139.0 | 138.5 | 137.6 |
| Business supplies | 9.02 | 118.4 | 117.0 | 114.9 | 114.3 | 114.9 | 114.3 | 113.7 | 113.0 | 111.3 |
| Materials | 39.22 | 165.9 | 165.0 | 163.9 | 164.1 | 163.3 | 161.4 | 161.1 | 160.5 | 159.2 |
| Durable | 22.78 | 226.6 | 225.2 | 223.6 | 223.0 | 223.6 | 220.3 | 220.2 | 218.7 | 215.3 |
| Consumer parts | 4.49 | 146.1 | 149.9 | 153.1 | 153.6 | 158.2 | 155.9 | 158.0 | 157.3 | 152.4 |
| Equipment parts | 8.68 | 517.5 | 514.9 | 508.2 | 498.3 | 493.7 | 483.1 | 479.4 | 475.1 | 468.6 |
| Other | 9.61 | 130.1 | 127.2 | 125.5 | 126.9 | 127.0 | 126.0 | 125.8 | 125.1 | 123.9 |
| Nondurable | 8.38 | 107.5 | 107.2 | 104.6 | 105.2 | 103.1 | 102.5 | 102.5 | 102.2 | 102.1 |
| Textile | .73 | 91.0 | 87.7 | 87.4 | 86.3 | 83.7 | 83.4 | 79.7 | 82.5 | 81.9 |
| Paper | 1.53 | 110.3 | 112.4 | 105.9 | 111.3 | 108.5 | 104.8 | 107.2 | 108.4 | 108.5 |
| Chemical | 4.31 | 108.5 | 108.2 | 105.9 | 104.1 | 102.2 | 103.0 | 102.2 | 101.1 | 101.2 |
| Energy | 8.06 | 104.4 | 103.9 | 104.9 | 105.8 | 104.8 | 103.8 | 103.2 | 103.5 | 103.6 |
| INDUSTRY GROUPS | | | | | | | | | | |
| Manufacturing | 87.40 | 151.3 | 150.7 | 150.0 | 149.6 | 149.2 | 147.5 | 147.6 | 146.3 | 144.7 |
| Durable | 47.81 | 192.3 | 191.1 | 191.3 | 190.1 | 190.1 | 186.9 | 187.6 | 185.7 | 182.5 |
| Lumber and products | 24 | 1.82 | 108.3 | 109.1 | 111.4 | 110.9 | 113.8 | 114.6 | 114.9 | 115.8 |
| Furniture and fixtures | 25 | 1.61 | 144.1 | 143.8 | 143.2 | 142.5 | 143.5 | 140.0 | 138.1 | 135.6 |
| Stone, clay, and glass products | 32 | 2.38 | 135.2 | 134.3 | 134.3 | 133.3 | 134.3 | 132.0 | 132.1 | 131.7 |
| Primary metals | 33 | 3.32 | 124.0 | 121.3 | 117.8 | 122.4 | 122.5 | 121.8 | 122.3 | 120.6 |
| Fabricated metals | 34 | 5.49 | 133.5 | 130.3 | 129.8 | 129.3 | 128.8 | 127.1 | 128.0 | 127.1 |
| Industrial machinery and equipment | 35 | 9.06 | 258.4 | 255.0 | 255.7 | 251.0 | 246.1 | 240.0 | 238.6 | 230.8 |
| Electrical machinery | 36 | 9.02 | 604.3 | 593.7 | 581.0 | 569.9 | 565.8 | 552.3 | 540.1 | 528.8 |
| Motor vehicles and parts | 371 | 5.72 | 138.6 | 147.4 | 156.5 | 155.4 | 162.9 | 160.7 | 168.4 | 163.3 |
| Aerospace and miscellaneous transportation equipment | 372-6,9 | 3.52 | 94.3 | 93.5 | 94.3 | 94.1 | 93.2 | 92.4 | 92.4 | 90.9 |
| Instruments | 38 | 4.54 | 125.0 | 123.3 | 122.6 | 123.1 | 122.4 | 120.0 | 121.1 | 120.8 |
| Miscellaneous | 39 | 1.31 | 130.4 | 127.6 | 127.6 | 128.4 | 126.6 | 127.9 | 128.8 | 123.6 |
| Nondurable | 39.59 | 114.0 | 114.0 | 112.7 | 112.8 | 112.2 | 111.5 | 111.3 | 110.5 | 110.1 |
| Food and tobacco products | 20,21 | 10.52 | 110.8 | 111.2 | 110.6 | 110.6 | 110.2 | 110.2 | 109.9 | 108.8 |
| Textile mill products | 22 | 1.23 | 93.0 | 92.7 | 92.4 | 90.7 | 87.4 | 87.7 | 84.3 | 85.4 |
| Apparel products | 23 | 1.41 | 88.9 | 88.7 | 88.4 | 88.2 | 87.9 | 85.2 | 85.9 | 81.1 |
| Paper and products | 26 | 3.30 | 111.8 | 112.8 | 107.7 | 113.7 | 110.9 | 108.8 | 109.8 | 108.8 |
| Printing and publishing | 27 | 6.58 | 109.6 | 107.7 | 106.2 | 105.6 | 105.3 | 104.0 | 103.4 | 102.2 |
| Chemicals and products | 28 | 10.33 | 121.8 | 122.6 | 121.2 | 120.1 | 120.2 | 119.5 | 119.6 | 119.0 |
| Petroleum products | 29 | 2.39 | 115.1 | 116.5 | 115.0 | 116.7 | 116.2 | 116.7 | 115.6 | 112.7 |
| Rubber and plastics products | 30 | 3.65 | 138.5 | 137.3 | 136.5 | 136.0 | 135.0 | 135.5 | 135.4 | 134.7 |
| Mining | 10-14 | 6.69 | 101.0 | 101.4 | 102.7 | 103.5 | 103.8 | 103.4 | 102.3 | 102.3 |
| Utilities | 491,2,3pt | 5.91 | 124.0 | 121.8 | 122.0 | 120.9 | 119.5 | 119.9 | 119.0 | 119.1 |
| Electric | | 4.45 | 126.7 | 123.9 | 125.5 | 127.2 | 125.0 | 124.4 | 123.2 | 123.0 |
| Gas | | 1.46 | 113.7 | 112.9 | 109.7 | 101.2 | 102.1 | 105.1 | 104.9 | 105.7 |

NOTE. See notes to table 1.

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

1992 = 100, seasonally adjusted

| Item | 2000 proportion | 2001 Jan. | Feb. | Mar. | Apr. | May | June ^f | July ^f | Aug. ^f | Sept. ^p |
|---|--------------------|--------------|--------|--------|--------|--------|-------------------|-------------------|-------------------|--------------------|
| Total industry | 100.00 | 146.0 | 145.4 | 145.0 | 144.6 | 144.2 | 142.8 | 142.7 | 141.8 | 140.3 |
| Energy | 13.92 | 111.4 | 111.0 | 111.5 | 111.7 | 111.1 | 110.9 | 110.0 | 110.3 | 109.7 |
| Consumer products | 3.44 | 119.0 | 119.2 | 118.6 | 117.5 | 115.2 | 115.8 | 115.1 | 116.1 | 115.3 |
| Commercial products | 1.90 | 129.5 | 127.8 | 127.4 | 126.4 | 131.4 | 134.0 | 132.0 | 132.5 | 128.7 |
| Oil and gas well drilling | .52 | 146.7 | 147.9 | 150.7 | 151.2 | 152.2 | 150.4 | 147.7 | 143.0 | 139.3 |
| Converted fuel | 2.28 | 111.8 | 113.1 | 113.7 | 114.7 | 112.6 | 108.1 | 107.6 | 108.0 | 107.9 |
| Primary materials | 5.78 | 100.3 | 99.3 | 100.4 | 101.2 | 100.5 | 100.8 | 100.0 | 100.3 | 100.6 |
| Non-energy | 86.08 | 151.9 | 151.3 | 150.6 | 150.1 | 149.8 | 148.0 | 148.1 | 146.9 | 145.3 |
| Selected high-technology industries | 8.47 | 1351.7 | 1334.1 | 1312.2 | 1283.1 | 1260.2 | 1228.4 | 1202.8 | 1190.9 | 1162.5 |
| Computers and office equipment | 357 | 2.37 | 1497.4 | 1484.2 | 1477.5 | 1464.4 | 1434.6 | 1410.1 | 1398.3 | 1391.5 |
| Communication equipment | 366 | 1.94 | 403.2 | 393.0 | 388.2 | 384.2 | 376.6 | 369.4 | 355.7 | 352.5 |
| Semiconductors and related electronic components | 3672-9 | 4.16 | 2297.1 | 2275.5 | 2217.7 | 2138.2 | 2105.3 | 2035.2 | 1995.2 | 1968.3 |
| Excluding selected high-technology industries | 77.61 | 121.4 | 121.1 | 120.7 | 120.5 | 120.5 | 119.3 | 119.6 | 118.6 | 117.5 |
| Motor vehicles and parts | 371 | 5.72 | 138.6 | 147.4 | 156.5 | 155.4 | 162.9 | 160.7 | 168.4 | 163.3 |
| Motor vehicles | 3711,3 | 3.10 | 127.2 | 133.6 | 143.5 | 142.5 | 148.9 | 146.2 | 157.7 | 149.3 |
| Motor vehicle parts | 3714 | 2.48 | 159.8 | 172.2 | 180.3 | 179.9 | 189.6 | 187.3 | 190.7 | 189.6 |
| Excluding motor vehicles and parts | 71.88 | 120.3 | 119.4 | 118.5 | 118.4 | 117.9 | 116.8 | 116.7 | 116.0 | 115.1 |
| Consumer goods | | 22.73 | 115.9 | 116.1 | 115.7 | 115.5 | 115.0 | 114.6 | 113.7 | 113.3 |
| Business equipment | | 9.48 | 137.6 | 135.6 | 135.3 | 133.7 | 132.7 | 128.8 | 128.8 | 125.5 |
| Business supplies | | 7.13 | 115.7 | 114.3 | 111.9 | 111.4 | 110.9 | 109.4 | 109.2 | 108.1 |
| Materials | | 24.30 | 120.4 | 118.9 | 117.2 | 117.9 | 117.1 | 116.1 | 116.2 | 115.7 |
| Measures excluding selected high-technology industries | | | | | | | | | | |
| Total industry | 91.53 | 120.1 | 119.7 | 119.5 | 119.4 | 119.2 | 118.2 | 118.3 | 117.6 | 116.5 |
| Manufacturing | 78.92 | 121.1 | 120.8 | 120.4 | 120.3 | 120.2 | 119.0 | 119.3 | 118.3 | 117.1 |
| Durable | 39.34 | 128.7 | 128.0 | 128.7 | 128.4 | 128.9 | 127.0 | 128.0 | 126.7 | 124.7 |
| Industrial machinery | 351-6,8,9 | 6.69 | 147.0 | 144.8 | 145.6 | 142.5 | 139.7 | 135.9 | 135.2 | 134.6 |
| Electrical machinery | 361-5,9,71 | 2.92 | 137.0 | 133.7 | 130.7 | 130.5 | 132.2 | 130.2 | 128.3 | 128.9 |
| Non-durable | | | | | | | | | | |
| Measures excluding motor vehicles and parts | | | | | | | | | | |
| Total industry | 94.28 | 146.5 | 145.4 | 144.5 | 144.1 | 143.4 | 141.9 | 141.4 | 140.7 | 139.5 |
| Manufacturing | 81.67 | 152.2 | 151.1 | 149.8 | 149.3 | 148.5 | 146.8 | 146.4 | 145.4 | 144.1 |
| Durable | 42.09 | 200.5 | 197.6 | 196.5 | 195.2 | 194.0 | 190.7 | 190.2 | 188.9 | 186.1 |
| Primary processing | 34.36 | 173.5 | 173.1 | 171.1 | 171.3 | 170.6 | 169.0 | 169.0 | 167.5 | 165.9 |
| Advanced processing | 53.04 | 139.0 | 138.4 | 138.3 | 137.5 | 137.3 | 135.6 | 135.7 | 134.6 | 133.0 |

NOTE. See notes to table 2.

Table 6
CAPACITY UTILIZATION

Percent of capacity, seasonally adjusted

| Item | 2000 proportion | 1967- | 1988- | 1990- | 1994- | 2000 Q4 | 2001 Q1 | 2001 Q2 ^f | 2001 Q3 ^p | 2001 | 2001 | 2001 | 2001 |
|---|-----------------|-----------|---------|--------|---------|---------|---------|----------------------|----------------------|-------------------|-------------------|-------------------|--------------------|
| | | 2000 ave. | 89 high | 91 low | 95 high | | | | | June ^e | July ^f | Aug. ^r | Sept. ^p |
| Total industry | 100.00 | 82.1 | 85.4 | 78.1 | 84.4 | 81.3 | 79.2 | 77.8 | 76.3 | 77.1 | 77.0 | 76.4 | 75.5 |
| Manufacturing | 88.70 | 81.1 | 85.7 | 76.6 | 84.0 | 80.3 | 77.9 | 76.4 | 74.7 | 75.6 | 75.5 | 74.8 | 73.8 |
| Durable | 49.19 | 79.6 | 84.6 | 73.1 | 83.6 | 80.7 | 77.2 | 75.3 | 73.1 | 74.2 | 74.2 | 73.3 | 71.8 |
| Lumber and products | 24 | 1.89 | 82.6 | 93.6 | 75.5 | 89.4 | 76.3 | 73.7 | 75.8 | 77.2 | 76.4 | 76.9 | 77.0 |
| Furniture and fixtures | 25 | 1.65 | 81.3 | 86.6 | 72.5 | 83.9 | 80.0 | 78.2 | 76.9 | 74.4 | 75.7 | 75.7 | 74.5 |
| Stone, clay, and glass products | 32 | 2.31 | 78.9 | 83.5 | 69.7 | 86.8 | 84.0 | 83.4 | 82.1 | 80.8 | 81.2 | 81.1 | 80.6 |
| Primary metals | 33 | 3.13 | 81.6 | 92.7 | 73.7 | 95.4 | 83.1 | 78.8 | 79.6 | 78.3 | 79.4 | 79.8 | 78.7 |
| Fabricated metals | 34 | 5.85 | 77.9 | 82.0 | 71.9 | 85.2 | 75.7 | 73.4 | 71.5 | 70.3 | 70.7 | 71.1 | 70.5 |
| Industrial machinery and equipment | 35 | 9.34 | 81.4 | 85.4 | 72.3 | 87.3 | 82.5 | 79.5 | 75.3 | 71.4 | 73.2 | 72.5 | 72.0 |
| Electrical machinery | 36 | 9.26 | 81.4 | 84.0 | 75.0 | 90.1 | 87.1 | 80.0 | 72.8 | 67.6 | 70.7 | 68.6 | 67.9 |
| Motor vehicles and parts | 371 | 5.74 | 77.0 | 89.1 | 55.9 | 85.9 | 76.0 | 69.9 | 75.4 | 76.8 | 75.8 | 79.4 | 76.9 |
| Aerospace and miscellaneous transportation equipment | 372,6-9 | 4.01 | 75.2 | 87.3 | 60.7 | 85.3 | 72.8 | 72.3 | 71.7 | 70.3 | 71.0 | 71.0 | 70.2 |
| Instruments | 38 | 4.69 | 81.6 | 81.4 | 74.5 | 82.6 | 80.5 | 80.3 | 78.9 | 78.1 | 77.7 | 78.3 | 78.0 |
| Miscellaneous | 39 | 1.32 | 75.9 | 79.0 | 71.7 | 81.9 | 80.5 | 79.2 | 78.3 | 76.6 | 78.3 | 78.7 | 75.8 |
| Nondurable | 39.52 | 83.2 | 87.3 | 79.7 | 85.6 | 79.7 | 78.5 | 77.6 | 76.5 | 77.1 | 77.0 | 76.4 | 76.2 |
| Food and tobacco products | 20,21 | 10.54 | 83.3 | 85.9 | 79.1 | 85.8 | 81.2 | 81.2 | 80.9 | 80.1 | 80.8 | 80.5 | 79.9 |
| Textile mill products | 22 | 1.26 | 85.5 | 90.4 | 77.7 | 92.6 | 77.1 | 76.0 | 73.3 | 71.3 | 72.8 | 70.2 | 72.0 |
| Apparel products | 23 | 1.64 | 80.6 | 85.1 | 70.7 | 85.9 | 69.4 | 69.6 | 68.5 | 65.6 | 67.1 | 67.7 | 65.2 |
| Paper and products | 26 | 3.18 | 88.7 | 93.5 | 83.1 | 91.6 | 83.3 | 80.1 | 80.2 | 78.5 | 78.4 | 79.1 | 78.1 |
| Printing and publishing | 27 | 6.59 | 85.4 | 91.7 | 77.8 | 87.7 | 82.0 | 79.9 | 77.7 | 76.1 | 77.0 | 76.5 | 76.2 |
| Chemicals and products | 28 | 10.56 | 79.3 | 86.2 | 74.2 | 84.2 | 75.5 | 73.8 | 72.7 | 72.3 | 72.4 | 72.5 | 72.2 |
| Petroleum products | 29 | 1.97 | 87.3 | 88.5 | 85.1 | 97.1 | 94.3 | 93.8 | 94.5 | 92.3 | 94.6 | 93.7 | 92.0 |
| Rubber and plastics products | 30 | 3.58 | 84.7 | 89.6 | 77.4 | 91.3 | 80.9 | 79.3 | 77.8 | 77.3 | 77.7 | 77.6 | 77.2 |
| Mining | 5.96 | 87.4 | 88.0 | 82.0 | 91.0 | 86.6 | 88.2 | 90.1 | 89.2 | 90.0 | 89.2 | 89.0 | 89.3 |
| Utilities | 5.33 | 87.6 | 92.6 | 83.0 | 93.5 | 92.0 | 90.4 | 87.7 | 86.5 | 87.2 | 86.3 | 87.6 | 85.7 |
| Selected high-technology industries | 9.18 | 80.4 | 81.9 | 72.4 | 87.9 | 85.1 | 77.3 | 69.3 | 63.2 | 66.8 | 64.7 | 63.5 | 61.4 |
| Computers and office equipment | 357 | 2.79 | 81.2 | 86.9 | 66.9 | 91.4 | 78.2 | 73.7 | 68.6 | 64.0 | 66.6 | 65.4 | 64.4 |
| Communicationsequipment | 366 | 2.03 | 80.4 | 84.8 | 73.4 | 87.8 | 87.3 | 83.2 | 75.5 | 66.7 | 72.7 | 68.8 | 67.0 |
| Semiconductors and related electronic components | 3672-9 | 4.36 | 80.0 | 81.1 | 72.6 | 90.8 | 87.9 | 76.4 | 66.3 | 60.3 | 63.6 | 61.8 | 60.5 |
| Measures excluding selected high-technology industries | | | | | | | | | | | | | |
| Total industry | 90.82 | 82.2 | 85.7 | 78.4 | 84.2 | 80.6 | 79.1 | 78.4 | 77.4 | 77.9 | 78.0 | 77.4 | 76.7 |
| Manufacturing | 79.52 | 81.2 | 86.1 | 76.8 | 83.8 | 79.5 | 77.6 | 76.9 | 75.8 | 76.3 | 76.5 | 75.9 | 75.1 |
| Industrial machinery | 351-6,8,9 | 6.54 | 81.3 | 85.5 | 72.9 | 88.1 | 84.2 | 81.8 | 77.8 | 74.1 | 75.7 | 75.2 | 74.7 |
| Electrical machinery | 361-5,9,71 | 2.88 | 83.4 | 87.5 | 74.3 | 93.2 | 82.9 | 81.0 | 79.4 | 78.4 | 78.9 | 77.8 | 78.9 |
| Primary processing | 33.89 | 82.2 | 88.3 | 76.7 | 88.7 | 82.7 | 78.4 | 76.6 | 74.8 | 75.8 | 75.6 | 74.8 | 74.0 |
| Advanced processing | 54.81 | 80.6 | 84.2 | 76.6 | 82.3 | 79.5 | 78.2 | 76.9 | 75.2 | 76.1 | 76.0 | 75.3 | 74.3 |

NOTE. See notes to table 2.

Table 7
INDUSTRIAL CAPACITY

Percent change

| Item | Average annual rate | | | | Fourth quarter to fourth quarter | | | | Annual rate | | | | Monthly rate |
|---|---------------------|---------|---------|-----------|----------------------------------|------|------|-------------------|-------------|---------|---------|---------|--------------|
| | 1967-79 | 1980-88 | 1989-94 | 1995-2001 | 1998 | 1999 | 2000 | 2001 ^p | 2000 Q4 | 2001 Q1 | 2001 Q2 | 2001 Q3 | 2001 Sept. |
| Total industry | 3.5 | 2.2 | 2.2 | 4.9 | 6.5 | 4.6 | 4.6 | 2.4 | 4.6 | 3.7 | 2.5 | 1.8 | .1 |
| Manufacturing | 3.7 | 2.5 | 2.5 | 5.5 | 7.2 | 5.1 | 5.0 | 2.7 | 5.1 | 4.1 | 2.8 | 1.9 | .1 |
| Durable | 3.6 | 3.1 | 3.0 | 8.5 | 10.2 | 8.4 | 8.8 | 4.9 | 9.2 | 7.6 | 5.1 | 3.6 | .3 |
| Nondurable | 3.9 | 1.8 | 2.0 | 1.9 | 4.1 | 1.3 | .8 | -1 | .5 | .1 | -1 | -2 | .0 |
| Mining | .4 | .2 | -.6 | -.3 | -.1 | -1.5 | -.8 | -1.3 | -1.5 | -1.7 | -1.4 | -1.2 | -.1 |
| Utilities | 4.9 | 1.2 | 1.4 | 2.1 | 1.1 | 2.4 | 3.3 | 4.1 | 3.3 | 3.7 | 4.0 | 4.3 | .4 |
| Selected high-technology industries | 11.3 | 15.9 | 13.5 | 38.9 | 39.5 | 37.8 | 47.6 | 21.5 | 50.9 | 37.7 | 22.7 | 14.1 | 1.0 |
| Manufacturing ex. selected high-technology industries | 3.3 | 1.4 | 1.7 | 2.5 | 4.4 | 2.1 | 1.3 | .6 | 1.0 | .7 | .5 | .5 | .0 |
| Primary processing | 3.8 | 1.6 | 3.3 | 7.6 | 9.4 | 4.9 | 8.0 | 4.2 | 9.5 | 7.6 | 4.4 | 2.5 | .2 |
| Advanced processing | 3.7 | 3.1 | 2.1 | 4.0 | 5.7 | 5.2 | 3.0 | 1.8 | 2.4 | 2.1 | 1.9 | 1.7 | .1 |

Table 8
GROSS VALUE OF PRODUCTS

Billions of 1996 dollars at annual rate, seasonally adjusted

| Item | 1996 | 2000 | 2000 | | 2001 | | | 2001 | | | |
|------------------------------|---------|---------|---------|---------|---------|-----------------|-----------------|-------------------|-------------------|-------------------|--------------------|
| | | | Q3 | Q4 | Q1 | Q2 ^r | Q3 ^p | June ^r | July ^r | Aug. ^r | Sept. ^p |
| Products, total | 2,427.8 | 2,878.0 | 2,879.2 | 2,860.3 | 2,821.6 | 2,809.4 | 2,774.6 | 2,796.5 | 2,804.9 | 2,776.4 | 2,742.6 |
| Final products | 1,862.5 | 2,216.7 | 2,217.1 | 2,202.4 | 2,175.9 | 2,170.2 | 2,142.0 | 2,157.1 | 2,167.3 | 2,142.4 | 2,116.2 |
| Consumer goods | 1,225.0 | 1,342.8 | 1,347.1 | 1,332.9 | 1,321.1 | 1,327.7 | 1,321.4 | 1,325.7 | 1,333.5 | 1,320.3 | 1,310.5 |
| Durable | 303.9 | 372.3 | 371.5 | 355.0 | 344.4 | 356.5 | 360.2 | 356.9 | 368.7 | 360.3 | 351.7 |
| Automotive products | 162.6 | 195.0 | 195.3 | 181.9 | 175.0 | 186.8 | 193.6 | 187.6 | 200.5 | 193.1 | 187.1 |
| Other durable goods | 141.3 | 177.9 | 176.7 | 175.0 | 171.6 | 170.3 | 165.7 | 169.6 | 166.3 | 166.4 | 164.2 |
| Nondurable | 921.0 | 970.6 | 975.3 | 975.8 | 973.5 | 969.7 | 960.5 | 967.4 | 965.0 | 959.4 | 957.2 |
| Equipment, total | 637.5 | 872.7 | 878.9 | 879.7 | 863.7 | 848.1 | 822.6 | 835.1 | 837.1 | 824.6 | 806.1 |
| Business and defense | 610.2 | 850.4 | 856.4 | 859.2 | 842.9 | 825.7 | 800.6 | 812.2 | 814.7 | 802.8 | 784.4 |
| Business | 538.6 | 788.7 | 800.3 | 802.2 | 784.5 | 767.4 | 742.2 | 754.2 | 755.9 | 745.0 | 725.8 |
| Defense and space | 71.6 | 65.9 | 65.3 | 66.1 | 66.7 | 66.2 | 65.6 | 65.6 | 66.3 | 65.2 | 65.3 |
| Intermediate products | 565.3 | 661.3 | 661.2 | 656.9 | 644.9 | 638.6 | 632.0 | 638.6 | 637.0 | 633.2 | 625.7 |
| Construction supplies | 235.0 | 285.4 | 284.9 | 281.3 | 278.7 | 277.5 | 276.1 | 277.0 | 277.1 | 276.5 | 274.8 |
| Business supplies | 330.3 | 375.6 | 375.9 | 375.2 | 365.9 | 360.8 | 355.6 | 361.3 | 359.6 | 356.5 | 350.7 |
| Commercial energy products | 85.5 | 95.8 | 96.8 | 95.9 | 94.7 | 96.6 | 96.5 | 99.0 | 97.7 | 97.5 | 94.2 |

Table 9
DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

Percent

| Item | Percent | | | | | | | | | | | |
|-----------------------------|---------|------|------|------|------|------|------|------|-------|------|------|------|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| One month earlier | | | | | | | | | | | | |
| 1999 | 53.6 | 56.5 | 55.4 | 59.4 | 55.1 | 50.7 | 58.2 | 55.8 | 48.6 | 64.5 | 53.3 | 59.8 |
| 2000 | 58.7 | 50.4 | 56.5 | 51.4 | 51.4 | 56.2 | 54.2 | 43.5 | 54.0 | 43.5 | 45.7 | 37.9 |
| 2001 | 46.7 | 41.8 | 41.7 | 44.9 | 42.4 | 37.0 | 43.5 | 35.9 | | | | |
| Three months earlier | | | | | | | | | | | | |
| 1999 | 52.9 | 56.9 | 56.5 | 56.5 | 55.8 | 58.0 | 56.2 | 63.4 | 58.0 | 62.0 | 58.3 | 62.7 |
| 2000 | 61.2 | 62.0 | 59.8 | 56.2 | 54.0 | 52.9 | 49.6 | 44.9 | 48.9 | 43.1 | 45.3 | 42.4 |
| 2001 | 38.9 | 36.8 | 37.7 | 39.9 | 39.9 | 38.0 | 38.0 | 34.1 | | | | |
| Six months earlier | | | | | | | | | | | | |
| 1999 | 59.1 | 53.3 | 56.2 | 54.3 | 58.0 | 59.8 | 60.1 | 60.1 | 61.6 | 67.4 | 62.7 | 62.7 |
| 2000 | 68.1 | 65.9 | 68.1 | 64.1 | 60.0 | 55.4 | 49.6 | 43.8 | 47.5 | 44.9 | 41.7 | 39.5 |
| 2001 | 40.9 | 38.0 | 35.1 | 33.3 | 34.4 | 35.1 | 34.4 | 33.3 | | | | |

NOTE. The diffusion indexes are calculated as the percentage of series that increased over the indicated span (one, three, or six months) plus one-half the percentage that were unchanged.

Table 10
ELECTRIC POWER USE

1992 = 100

| Item | 1992 billion kWh | Seasonally adjusted | | | | | | Not seasonally adjusted | | | | | |
|---------------------------------------|------------------------|---------------------|-------|-------|-------------------|-------------------|-------------------|-------------------------|-------|-------|-------------------|-------------------|-------------------|
| | | 2001 | | | | | | 2001 | | | | | |
| | | Mar. | Apr. | May | June ^r | July ^r | Aug. ^p | Mar. | Apr. | May | June ^r | July ^r | Aug. ^p |
| Total manufacturing and mining | 933.2 | 105.1 | 102.8 | 102.3 | 99.7 | 99.9 | 98.6 | 103.0 | 102.3 | 101.5 | 101.5 | 101.2 | 102.1 |
| Manufacturing | 853.2 | 105.7 | 103.3 | 102.7 | 99.8 | 100.1 | 98.9 | 103.5 | 102.8 | 101.9 | 101.7 | 101.7 | 102.7 |
| Durable | 366.0 | 107.0 | 103.9 | 104.5 | 102.3 | 102.7 | 101.4 | 105.7 | 103.5 | 104.0 | 104.2 | 104.0 | 104.7 |
| Nondurable | 487.2 | 104.7 | 102.8 | 101.2 | 97.7 | 97.9 | 96.9 | 101.7 | 102.2 | 100.2 | 99.8 | 99.9 | 101.1 |
| Mining | 80.1 | 97.0 | 96.5 | 96.9 | 98.6 | 97.4 | 94.7 | 97.2 | 95.9 | 95.4 | 97.7 | 93.9 | 92.9 |
| Total ex. nuclear nondefense | 908.9 | 107.0 | 104.5 | 105.1 | 103.3 | 103.3 | 101.9 | 104.2 | 103.4 | 104.2 | 105.3 | 105.0 | 105.8 |
| Utility sales to industry | 835.5 | 104.8 | 102.7 | 101.7 | 100.1 | 100.6 | 99.3 | 102.9 | 102.6 | 101.5 | 101.4 | 100.9 | 101.9 |
| Industrial generation | 97.7 | 104.9 | 102.6 | 102.0 | 103.7 | 103.1 | 102.1 | 105.7 | 99.0 | 100.5 | 101.9 | 105.6 | 104.7 |

NOTE. Additional industry detail is available on the Board's web site, www.federalreserve.gov/releases/g17/download.htm.

Table 11
HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Total Industry

Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| IP (percent change)¹ | | | | | | | | | | | | | | | | | |
| 1979 | -.5 | .8 | .3 | -.9 | 1.2 | .0 | -.7 | -.4 | .1 | .4 | -.5 | -.2 | 2.2 | 1.1 | -2.3 | -.3 | 3.3 |
| 1980 | .5 | .1 | .0 | -1.9 | -2.5 | -1.3 | -.6 | 1.2 | 1.5 | .7 | 1.6 | .5 | .8 | -15.0 | -4.2 | 14.2 | -2.8 |
| 1981 | -.9 | .5 | .5 | -.7 | .8 | .6 | .9 | -.4 | -.8 | -.8 | -1.4 | -1.1 | 1.9 | 2.2 | 4.1 | -10.5 | 1.6 |
| 1982 | -1.6 | 2.2 | -.7 | -.9 | -.8 | -.3 | -.8 | -.5 | -.7 | -.8 | -.3 | -.8 | -6.4 | -5.2 | -7.3 | -7.5 | -5.4 |
| 1983 | 2.1 | -.2 | 1.0 | 1.3 | 1.2 | .6 | 1.8 | 1.3 | 1.7 | .8 | -.1 | .5 | 6.8 | 11.9 | 17.3 | 10.3 | 3.7 |
| 1984 | 2.1 | -.2 | 1.1 | .5 | .6 | .5 | .2 | .0 | -.1 | -.5 | .1 | -.4 | 11.1 | 7.2 | 2.6 | -2.6 | 8.9 |
| 1985 | .4 | .9 | .3 | .2 | .2 | -.2 | -.4 | .6 | .6 | -.9 | .6 | .7 | 3.0 | 2.8 | .3 | 1.4 | 1.6 |
| 1986 | .6 | -.7 | -1.0 | .8 | -.2 | -.3 | .3 | .3 | -.1 | .9 | .5 | .9 | 2.0 | -1.7 | .7 | 6.5 | 1.1 |
| 1987 | -.6 | 1.2 | .4 | .4 | .4 | .9 | .6 | .1 | -.1 | 1.4 | .3 | .6 | 4.2 | 6.7 | 5.6 | 7.1 | 4.6 |
| 1988 | .1 | .3 | .0 | .6 | .1 | .1 | .7 | .5 | -.4 | .3 | .8 | .5 | 3.2 | 3.1 | 3.9 | 3.6 | 4.5 |
| 1989 | .6 | -.8 | .9 | .2 | -.6 | -.2 | -1.0 | .4 | -.2 | -.5 | .4 | .5 | 3.8 | .5 | -4.4 | -.1 | 1.8 |
| 1990 | -.5 | .5 | .5 | -.6 | .4 | .0 | .0 | .2 | .1 | -.6 | -1.3 | -.6 | 2.0 | .6 | 1.0 | -5.8 | -.2 |
| 1991 | -.5 | -.8 | -.9 | .3 | .8 | 1.2 | .1 | .1 | 1.0 | -.1 | -.1 | -.6 | -8.3 | 1.5 | 6.2 | 1.1 | -2.0 |
| 1992 | .1 | .5 | .9 | .7 | .3 | -.2 | .7 | -.3 | .4 | .7 | .5 | .0 | 1.0 | 6.5 | 2.4 | 5.0 | 3.1 |
| 1993 | .4 | .5 | .2 | .3 | -.5 | .3 | .2 | -.2 | 1.1 | .3 | .4 | .8 | 3.8 | 1.5 | 1.9 | 6.2 | 3.5 |
| 1994 | .2 | .3 | .8 | .5 | .8 | .4 | .6 | .3 | .1 | .5 | .7 | 1.0 | 5.5 | 7.7 | 5.8 | 6.3 | 5.4 |
| 1995 | .6 | -.1 | .2 | -.2 | .4 | .4 | -.4 | 1.3 | .6 | -.4 | .3 | .1 | 6.0 | 1.1 | 4.4 | 2.9 | 4.8 |
| 1996 | -.2 | 1.1 | -.1 | 1.1 | .8 | .8 | .0 | .6 | .5 | .0 | 1.0 | .4 | 2.8 | 9.2 | 5.4 | 5.3 | 4.6 |
| 1997 | .5 | 1.0 | .2 | .6 | .3 | .6 | .7 | .9 | .6 | .6 | .6 | .3 | 7.6 | 6.1 | 7.9 | 7.3 | 6.8 |
| 1998 | .4 | .0 | .3 | .5 | .4 | -.7 | -.1 | 2.1 | -.3 | .5 | -.4 | .1 | 3.6 | 3.0 | 3.4 | 2.9 | 4.9 |
| 1999 | .6 | .3 | .7 | .1 | .7 | .2 | .8 | .4 | .1 | .8 | .3 | .7 | 3.9 | 4.9 | 5.8 | 5.7 | 4.2 |
| 2000 | .5 | .5 | .7 | .7 | .7 | .5 | -.2 | .7 | .2 | -.2 | -.3 | -.6 | 6.7 | 7.9 | 3.5 | -.9 | 5.6 |
| 2001 | -.9 | -.4 | -.3 | -.3 | -.3 | -1.0 | -.1 | -.7 | -1.0 | | | | -6.8 | -4.4 | -6.2 | | |
| IP (1992=100) | | | | | | | | | | | | | | | | | |
| 1999 | 135.9 | 136.3 | 137.3 | 137.4 | 138.4 | 138.6 | 139.7 | 140.3 | 140.4 | 141.5 | 141.9 | 142.8 | 136.5 | 138.1 | 140.1 | 142.1 | 139.6 |
| 2000 | 143.6 | 144.3 | 145.2 | 146.3 | 147.2 | 147.9 | 147.6 | 148.6 | 149.0 | 148.7 | 148.2 | 147.3 | 144.4 | 147.1 | 148.4 | 148.1 | 147.5 |
| 2001 | 146.0 | 145.4 | 145.0 | 144.6 | 144.2 | 142.8 | 142.7 | 141.8 | 140.3 | | | | 145.5 | 143.9 | 141.6 | | |
| Capacity (percent of 1992 output) | | | | | | | | | | | | | | | | | |
| 1999 | 167.9 | 168.6 | 169.2 | 169.9 | 170.5 | 171.1 | 171.7 | 172.3 | 172.9 | 173.5 | 174.1 | 174.8 | 168.6 | 170.5 | 172.3 | 174.1 | 171.4 |
| 2000 | 175.4 | 176.1 | 176.7 | 177.4 | 178.1 | 178.7 | 179.4 | 180.1 | 180.7 | 181.4 | 182.1 | 182.8 | 176.1 | 178.1 | 180.1 | 182.1 | 179.1 |
| 2001 | 183.3 | 183.7 | 184.2 | 184.5 | 184.9 | 185.2 | 185.4 | 185.7 | 185.9 | | | | 183.7 | 184.9 | 185.7 | | |
| Utilization (percent) | | | | | | | | | | | | | | | | | |
| 1979 | 86.7 | 87.1 | 87.1 | 86.1 | 86.9 | 86.7 | 85.9 | 85.4 | 85.3 | 85.5 | 84.9 | 84.5 | 87.0 | 86.6 | 85.5 | 85.0 | 86.0 |
| 1980 | 84.7 | 84.6 | 84.4 | 82.6 | 80.4 | 79.2 | 78.5 | 79.3 | 80.3 | 80.7 | 81.8 | 82.1 | 84.6 | 80.7 | 79.4 | 81.5 | 81.5 |
| 1981 | 81.2 | 81.4 | 81.6 | 80.9 | 81.4 | 81.8 | 82.3 | 81.8 | 80.9 | 80.1 | 78.8 | 77.7 | 81.4 | 81.4 | 81.7 | 78.9 | 80.8 |
| 1982 | 76.3 | 77.8 | 77.1 | 76.2 | 75.4 | 75.0 | 74.2 | 73.7 | 73.0 | 72.2 | 71.9 | 71.1 | 77.1 | 75.6 | 73.6 | 71.7 | 74.5 |
| 1983 | 72.5 | 72.3 | 72.9 | 73.7 | 74.5 | 74.8 | 76.1 | 77.0 | 78.2 | 78.7 | 78.6 | 78.9 | 72.6 | 74.4 | 77.1 | 78.7 | 75.7 |
| 1984 | 80.4 | 80.1 | 80.8 | 81.0 | 81.3 | 81.5 | 81.5 | 81.3 | 81.0 | 80.5 | 80.4 | 79.8 | 80.4 | 81.3 | 81.3 | 80.2 | 80.8 |
| 1985 | 79.9 | 80.4 | 80.4 | 80.3 | 80.3 | 79.9 | 79.4 | 79.6 | 79.9 | 79.0 | 79.2 | 79.5 | 80.2 | 80.2 | 79.6 | 79.2 | 79.8 |
| 1986 | 79.8 | 79.2 | 78.2 | 78.7 | 78.4 | 78.1 | 78.2 | 78.3 | 78.2 | 78.8 | 79.1 | 79.7 | 79.1 | 78.4 | 78.2 | 79.2 | 78.7 |
| 1987 | 79.1 | 80.0 | 80.2 | 80.5 | 80.7 | 81.4 | 81.8 | 81.8 | 81.6 | 82.6 | 82.8 | 83.2 | 79.8 | 80.8 | 81.7 | 82.9 | 81.3 |
| 1988 | 83.2 | 83.4 | 83.3 | 83.7 | 83.7 | 83.6 | 84.1 | 84.5 | 84.1 | 84.2 | 84.8 | 85.1 | 83.3 | 83.7 | 84.2 | 84.7 | 84.0 |
| 1989 | 85.4 | 84.6 | 85.3 | 85.3 | 84.7 | 84.4 | 83.4 | 83.6 | 83.3 | 82.8 | 83.0 | 83.2 | 85.1 | 84.8 | 83.4 | 83.0 | 84.1 |
| 1990 | 82.7 | 83.0 | 83.3 | 82.7 | 82.9 | 82.7 | 82.6 | 82.6 | 82.6 | 82.0 | 80.8 | 80.2 | 83.0 | 82.8 | 82.6 | 81.0 | 82.3 |
| 1991 | 79.6 | 78.9 | 78.1 | 78.2 | 78.7 | 79.6 | 79.5 | 79.5 | 80.2 | 80.0 | 79.8 | 79.2 | 78.9 | 78.8 | 79.7 | 79.6 | 79.3 |
| 1992 | 79.1 | 79.4 | 79.9 | 80.4 | 80.4 | 80.1 | 80.5 | 80.2 | 80.3 | 80.8 | 81.0 | 80.9 | 79.5 | 80.3 | 80.3 | 80.9 | 80.2 |
| 1993 | 81.0 | 81.3 | 81.3 | 81.4 | 80.9 | 80.9 | 81.0 | 80.7 | 81.4 | 81.5 | 81.6 | 82.1 | 81.2 | 81.1 | 81.0 | 81.7 | 81.3 |
| 1994 | 82.1 | 82.1 | 82.5 | 82.7 | 83.2 | 83.3 | 83.5 | 83.5 | 83.3 | 83.5 | 83.7 | 84.3 | 82.2 | 83.1 | 83.4 | 83.8 | 83.1 |
| 1995 | 84.4 | 84.0 | 83.8 | 83.3 | 83.3 | 83.2 | 82.5 | 83.3 | 83.4 | 82.8 | 82.7 | 82.4 | 84.1 | 83.3 | 83.1 | 82.6 | 83.3 |
| 1996 | 81.9 | 82.4 | 82.0 | 82.5 | 82.8 | 83.1 | 82.7 | 82.8 | 82.9 | 82.5 | 83.0 | 83.0 | 82.1 | 82.8 | 82.8 | 82.8 | 82.6 |
| 1997 | 83.0 | 83.5 | 83.3 | 83.4 | 83.3 | 83.3 | 83.5 | 83.8 | 83.8 | 83.9 | 83.9 | 83.7 | 83.3 | 83.3 | 83.7 | 83.8 | 83.5 |
| 1998 | 83.5 | 83.1 | 82.9 | 82.8 | 82.7 | 81.6 | 81.1 | 82.4 | 81.8 | 81.8 | 81.1 | 80.8 | 83.2 | 82.4 | 81.8 | 81.2 | 82.1 |
| 1999 | 81.0 | 80.9 | 81.1 | 80.9 | 81.2 | 81.0 | 81.3 | 81.4 | 81.2 | 81.5 | 81.5 | 81.7 | 81.0 | 81.0 | 81.3 | 81.6 | 81.2 |
| 2000 | 81.9 | 82.0 | 82.2 | 82.5 | 82.7 | 82.7 | 82.3 | 82.6 | 82.4 | 82.0 | 81.4 | 80.6 | 82.0 | 82.6 | 82.4 | 81.3 | 82.1 |
| 2001 | 79.7 | 79.2 | 78.7 | 78.4 | 78.0 | 77.1 | 77.0 | 76.4 | 75.5 | | | | 79.2 | 77.8 | 76.3 | | |

1. Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

Table 12

HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing

Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| IP (percent change) | | | | | | | | | | | | | | | | | |
| 1979 | -.3 | .7 | .4 | -1.5 | 1.5 | .1 | -.5 | -.9 | .0 | .5 | -.7 | -.1 | 3.4 | .3 | -2.4 | -1.5 | 3.6 |
| 1980 | .2 | .3 | -.4 | -2.1 | -3.1 | -1.5 | -.7 | 1.7 | 1.5 | 1.1 | 1.7 | .3 | -.4 | -17.7 | -4.7 | 16.8 | -3.9 |
| 1981 | -.6 | .6 | .3 | .2 | .7 | -.1 | .6 | -.8 | -.8 | -1.1 | -1.6 | -1.6 | 2.5 | 4.2 | -.1 | -13.1 | 1.6 |
| 1982 | -2.0 | 2.9 | -.7 | -.9 | -.4 | .0 | -.8 | -.5 | -.5 | -1.2 | -.3 | -.7 | -7.6 | -2.7 | -5.6 | -8.0 | -5.9 |
| 1983 | 2.5 | .4 | 1.4 | 1.1 | 1.4 | .8 | 1.5 | 1.1 | 2.2 | .6 | .3 | -.1 | 11.5 | 14.7 | 17.1 | 11.2 | 5.7 |
| 1984 | 2.5 | .6 | .7 | .5 | .4 | .7 | .3 | .1 | -.2 | .0 | .1 | -.3 | 13.2 | 6.6 | 3.4 | -.4 | 9.9 |
| 1985 | .1 | .6 | .7 | .2 | .5 | -.3 | -.4 | .9 | .4 | -.8 | 1.1 | -.1 | 2.1 | 4.2 | 1.1 | 1.6 | 2.3 |
| 1986 | 1.5 | -.5 | -.9 | 1.4 | -.1 | -.3 | .3 | .6 | .0 | .8 | .4 | 1.2 | 4.5 | 1.7 | 1.7 | 6.7 | 2.8 |
| 1987 | -.8 | 1.6 | .2 | .5 | .3 | 1.0 | .7 | -.2 | .1 | 1.3 | .5 | .6 | 5.0 | 7.0 | 5.5 | 7.6 | 5.3 |
| 1988 | -.2 | .4 | -.1 | 1.0 | -.1 | .0 | .7 | .3 | .2 | .2 | .9 | .6 | 2.3 | 4.1 | 3.7 | 5.2 | 4.7 |
| 1989 | .9 | -1.2 | .8 | .1 | -.7 | .0 | -1.1 | .3 | -.3 | -.6 | .4 | .1 | 4.3 | -.7 | -4.5 | -1.4 | 1.9 |
| 1990 | -.2 | .9 | .3 | -.8 | .4 | -.1 | .0 | .3 | -.1 | -.6 | -1.3 | -.6 | 2.9 | -.1 | .8 | -6.3 | -.5 |
| 1991 | -.9 | -.7 | -1.1 | .3 | .7 | 1.4 | .2 | .2 | 1.1 | -.1 | -.2 | -.5 | -9.7 | 1.2 | 7.8 | 1.7 | -2.4 |
| 1992 | .3 | .6 | 1.0 | .6 | .4 | -.1 | .7 | -.2 | .3 | .7 | .5 | -.1 | 2.4 | 7.3 | 3.0 | 4.5 | 4.0 |
| 1993 | .7 | .3 | .2 | .5 | -.4 | .0 | .2 | -.2 | 1.3 | .2 | .5 | .9 | 4.4 | 2.0 | 1.5 | 6.6 | 3.7 |
| 1994 | .0 | .4 | 1.0 | .8 | .9 | .2 | .8 | .5 | .2 | .6 | .9 | 1.0 | 5.6 | 9.4 | 6.6 | 7.6 | 6.0 |
| 1995 | .6 | -.2 | .3 | -.3 | .2 | .5 | -.6 | 1.3 | .9 | -.3 | .2 | .1 | 6.5 | .7 | 3.9 | 3.6 | 5.3 |
| 1996 | -.2 | 1.0 | -.2 | 1.3 | .9 | .9 | .2 | .6 | .6 | .0 | 1.0 | .6 | 2.3 | 10.1 | 7.1 | 5.7 | 4.9 |
| 1997 | .5 | 1.2 | .4 | .5 | .3 | .8 | .6 | 1.1 | .5 | .6 | .7 | .4 | 8.5 | 6.7 | 9.0 | 7.7 | 7.8 |
| 1998 | .6 | .0 | .2 | .6 | .3 | -.8 | -.1 | 2.3 | -.2 | .7 | -.2 | .2 | 4.8 | 2.8 | 3.9 | 4.7 | 5.6 |
| 1999 | .5 | .5 | .5 | .2 | .8 | .2 | .6 | .6 | .1 | .9 | .5 | .6 | 4.1 | 5.4 | 6.0 | 6.8 | 4.8 |
| 2000 | .6 | .4 | -.9 | .6 | .6 | .4 | -.1 | .6 | .3 | -.1 | -.5 | -1.0 | 7.1 | 8.0 | 3.7 | -1.6 | 6.1 |
| 2001 | -.8 | -.4 | -.5 | -.3 | -.2 | -1.2 | .1 | -.9 | -1.1 | | | | -7.9 | -5.1 | -6.6 | | |
| IP (1992=100) | | | | | | | | | | | | | | | | | |
| 1999 | 140.5 | 141.2 | 141.9 | 142.2 | 143.4 | 143.6 | 144.5 | 145.3 | 145.6 | 146.8 | 147.5 | 148.4 | 141.2 | 143.1 | 145.1 | 147.6 | 144.8 |
| 2000 | 149.2 | 149.9 | 151.3 | 152.2 | 153.1 | 153.8 | 153.7 | 154.6 | 155.1 | 154.9 | 154.1 | 152.6 | 150.1 | 153.0 | 154.4 | 153.8 | 153.6 |
| 2001 | 151.3 | 150.7 | 150.0 | 149.6 | 149.2 | 147.5 | 147.6 | 146.3 | 144.7 | | | | 150.7 | 148.7 | 146.2 | | |
| Capacity (percent of 1992 output) | | | | | | | | | | | | | | | | | |
| 1999 | 175.3 | 176.0 | 176.8 | 177.5 | 178.3 | 179.0 | 179.7 | 180.3 | 181.0 | 181.7 | 182.4 | 183.1 | 176.0 | 178.3 | 180.3 | 182.4 | 179.3 |
| 2000 | 183.8 | 184.6 | 185.3 | 186.1 | 186.9 | 187.6 | 188.4 | 189.1 | 189.9 | 190.7 | 191.5 | 192.3 | 184.6 | 186.9 | 189.2 | 191.5 | 188.0 |
| 2001 | 192.9 | 193.5 | 194.0 | 194.4 | 194.8 | 195.1 | 195.4 | 195.7 | 196.0 | | | | 193.5 | 194.8 | 195.7 | | |
| Utilization (percent) | | | | | | | | | | | | | | | | | |
| 1979 | 86.4 | 86.7 | 86.9 | 85.3 | 86.4 | 86.3 | 85.6 | 84.5 | 84.3 | 84.5 | 83.6 | 83.3 | 86.7 | 86.0 | 84.8 | 83.8 | 85.3 |
| 1980 | 83.3 | 83.3 | 82.7 | 80.8 | 78.1 | 76.7 | 75.9 | 77.0 | 77.9 | 78.6 | 79.7 | 79.7 | 83.1 | 78.5 | 76.9 | 79.3 | 79.5 |
| 1981 | 79.0 | 79.2 | 79.3 | 79.3 | 79.6 | 79.3 | 79.6 | 78.8 | 78.0 | 77.0 | 75.6 | 74.2 | 79.2 | 79.4 | 78.8 | 75.6 | 78.3 |
| 1982 | 72.6 | 74.6 | 73.9 | 73.1 | 72.7 | 72.6 | 71.8 | 71.4 | 70.9 | 69.9 | 69.6 | 69.0 | 73.7 | 72.8 | 71.4 | 69.5 | 71.8 |
| 1983 | 70.6 | 70.8 | 71.8 | 72.5 | 73.4 | 73.9 | 74.8 | 75.6 | 77.2 | 77.6 | 77.7 | 77.5 | 71.1 | 73.2 | 75.9 | 77.6 | 74.4 |
| 1984 | 79.3 | 79.5 | 79.8 | 80.0 | 80.1 | 80.3 | 80.4 | 80.2 | 79.8 | 79.6 | 79.5 | 79.0 | 79.5 | 80.1 | 80.1 | 79.4 | 79.8 |
| 1985 | 78.9 | 79.1 | 79.3 | 79.2 | 79.4 | 78.9 | 78.3 | 78.8 | 78.8 | 77.9 | 78.5 | 78.2 | 79.1 | 79.2 | 78.6 | 78.2 | 78.8 |
| 1986 | 79.1 | 78.6 | 77.8 | 78.7 | 78.5 | 78.1 | 78.2 | 78.6 | 78.4 | 78.9 | 79.1 | 79.9 | 78.5 | 78.5 | 78.4 | 79.3 | 78.7 |
| 1987 | 79.1 | 80.2 | 80.3 | 80.6 | 80.7 | 81.4 | 81.8 | 81.5 | 81.5 | 82.5 | 82.8 | 83.1 | 79.9 | 80.9 | 81.6 | 82.8 | 81.3 |
| 1988 | 82.9 | 83.1 | 82.9 | 83.7 | 83.5 | 83.4 | 83.8 | 84.0 | 84.0 | 84.1 | 84.8 | 85.1 | 83.0 | 83.5 | 83.9 | 84.7 | 83.8 |
| 1989 | 85.7 | 84.5 | 85.0 | 85.0 | 84.2 | 84.1 | 83.0 | 83.1 | 82.7 | 82.1 | 82.2 | 82.1 | 85.1 | 84.4 | 82.9 | 82.1 | 83.6 |
| 1990 | 81.8 | 82.5 | 82.6 | 81.8 | 82.0 | 81.8 | 81.6 | 81.7 | 81.5 | 80.9 | 79.7 | 79.0 | 82.3 | 81.9 | 81.6 | 79.9 | 81.4 |
| 1991 | 78.2 | 77.5 | 76.6 | 76.8 | 77.1 | 78.1 | 78.2 | 78.2 | 79.0 | 78.9 | 78.6 | 78.1 | 77.5 | 77.3 | 78.5 | 78.5 | 77.9 |
| 1992 | 78.1 | 78.5 | 79.1 | 79.5 | 79.6 | 79.4 | 79.8 | 79.5 | 79.6 | 79.9 | 80.2 | 79.9 | 78.6 | 79.5 | 79.6 | 80.0 | 79.4 |
| 1993 | 80.4 | 80.4 | 80.4 | 80.7 | 80.2 | 80.1 | 80.1 | 79.7 | 80.6 | 80.6 | 80.7 | 81.3 | 80.4 | 80.3 | 80.1 | 80.9 | 80.4 |
| 1994 | 81.1 | 81.1 | 81.7 | 82.1 | 82.6 | 82.5 | 82.8 | 82.9 | 82.8 | 83.0 | 83.3 | 83.8 | 81.3 | 82.4 | 82.8 | 83.4 | 82.5 |
| 1995 | 84.0 | 83.5 | 83.3 | 82.7 | 82.5 | 82.6 | 81.7 | 82.3 | 82.7 | 82.0 | 81.7 | 81.4 | 83.6 | 82.6 | 82.2 | 81.7 | 82.5 |
| 1996 | 80.9 | 81.3 | 80.7 | 81.4 | 81.7 | 82.0 | 81.8 | 81.9 | 82.0 | 81.6 | 82.0 | 82.1 | 81.0 | 81.7 | 81.9 | 81.9 | 81.6 |
| 1997 | 82.1 | 82.6 | 82.5 | 82.5 | 82.3 | 82.5 | 82.6 | 83.1 | 83.0 | 83.0 | 83.1 | 82.9 | 82.4 | 82.5 | 82.9 | 83.0 | 82.7 |
| 1998 | 82.9 | 82.4 | 82.0 | 82.0 | 81.8 | 80.6 | 80.1 | 81.5 | 80.9 | 81.0 | 80.4 | 80.2 | 82.4 | 81.5 | 80.8 | 80.5 | 81.3 |
| 1999 | 80.2 | 80.2 | 80.3 | 80.1 | 80.4 | 80.2 | 80.4 | 80.6 | 80.4 | 80.8 | 80.9 | 81.0 | 80.2 | 80.3 | 80.5 | 80.9 | 80.5 |
| 2000 | 81.2 | 81.2 | 81.6 | 81.8 | 81.9 | 82.0 | 81.6 | 81.7 | 81.7 | 81.2 | 80.5 | 79.3 | 81.3 | 81.9 | 81.7 | 80.3 | 81.3 |
| 2001 | 78.4 | 77.9 | 77.3 | 76.9 | 76.6 | 75.6 | 75.5 | 74.8 | 73.8 | | | | 77.9 | 76.4 | 74.7 | | |

NOTE. See note to table 11.

Table 13

HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Total Industry Excluding Selected High-Technology Industries

Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| IP (percent change) | | | | | | | | | | | | | | | | | |
| 1979 | -.7 | .8 | .2 | -1.1 | 1.1 | -.1 | -.8 | -.5 | .0 | .3 | -.6 | -.3 | .9 | -.1 | -3.5 | -1.4 | 2.2 |
| 1980 | .3 | .0 | -.1 | -2.2 | -2.7 | -1.3 | -.8 | 1.2 | 1.6 | .6 | 1.6 | .5 | -.7 | -16.6 | -4.9 | 13.8 | -4.0 |
| 1981 | -.9 | .4 | .4 | -.8 | .8 | .5 | .9 | -.5 | -1.0 | -.8 | -1.6 | -1.4 | 1.3 | 1.1 | 3.2 | -11.8 | .8 |
| 1982 | -1.6 | 2.0 | -.8 | -.9 | -.9 | -.4 | -1.0 | -.4 | -1.0 | -1.0 | -.3 | -1.2 | -7.7 | -5.8 | -8.2 | -9.1 | -6.5 |
| 1983 | 2.5 | -.4 | .8 | 1.2 | 1.2 | .4 | 1.8 | 1.4 | 1.6 | .6 | -.2 | .5 | 6.9 | 10.6 | 16.8 | 8.7 | 2.8 |
| 1984 | 1.9 | -.3 | 1.0 | .4 | .4 | .3 | .1 | -.1 | -.2 | -.5 | .0 | -.5 | 9.7 | 5.3 | 1.0 | -3.5 | 7.5 |
| 1985 | .3 | .9 | .2 | .1 | .2 | -.1 | -.5 | .6 | .7 | -.8 | .3 | .7 | 2.3 | 2.5 | .5 | 1.0 | .9 |
| 1986 | .7 | -.8 | -1.1 | .8 | -.3 | -.2 | .0 | .2 | -.2 | 1.0 | .4 | 1.0 | 1.7 | -1.8 | -.6 | 6.3 | .8 |
| 1987 | -.8 | 1.2 | .3 | .4 | .5 | .8 | .5 | .1 | -.2 | 1.3 | .3 | .5 | 3.5 | 6.8 | 5.0 | 6.5 | 4.2 |
| 1988 | .1 | .2 | .1 | .4 | -.2 | .1 | .6 | .5 | -.3 | .4 | .6 | .5 | 2.8 | 1.8 | 3.3 | 3.5 | 3.9 |
| 1989 | .5 | -.7 | .9 | .1 | -.7 | -.3 | -.9 | .4 | -.3 | -.3 | .2 | .3 | 3.5 | -.3 | -4.8 | -.4 | 1.4 |
| 1990 | -.4 | .5 | .5 | -.5 | .3 | -.1 | .0 | .1 | .2 | -.6 | -1.4 | -.7 | 1.7 | .6 | .7 | -6.4 | -.5 |
| 1991 | -.5 | -.9 | -1.0 | .4 | .8 | 1.2 | .1 | .0 | 1.0 | -.2 | -.2 | -.7 | -8.8 | 1.4 | 6.1 | .4 | -2.4 |
| 1992 | -.2 | .4 | .8 | .7 | .2 | -.4 | .6 | -.4 | .3 | .6 | .4 | .0 | -.6 | 5.7 | 1.3 | 3.9 | 2.2 |
| 1993 | .4 | .5 | .1 | .3 | -.6 | .2 | .2 | -.2 | 1.0 | .2 | .4 | .7 | 3.7 | .8 | 1.2 | 5.0 | 2.8 |
| 1994 | .1 | .3 | .6 | .3 | .7 | .3 | .4 | .2 | .0 | .4 | .6 | .8 | 4.5 | 5.6 | 4.0 | 4.2 | 4.1 |
| 1995 | .3 | -.3 | -.1 | -.4 | .2 | .3 | -.6 | 1.1 | .3 | -.7 | .1 | -.1 | 2.9 | -1.3 | 2.2 | -.5 | 2.4 |
| 1996 | -.3 | .9 | -.3 | 1.0 | .6 | .6 | -.3 | .3 | .2 | -.4 | .8 | .2 | .7 | 7.0 | 2.2 | 2.0 | 2.0 |
| 1997 | .3 | .8 | -.1 | .4 | .1 | .3 | .4 | .8 | .5 | .6 | .4 | .1 | 5.2 | 3.0 | 5.4 | 6.4 | 4.1 |
| 1998 | .1 | -.2 | .3 | .4 | .3 | -1.1 | -.5 | 2.0 | -.6 | .2 | -.6 | -.2 | 1.0 | 1.8 | -.1 | .0 | 2.7 |
| 1999 | .4 | .0 | .5 | -.3 | .5 | -.1 | .4 | .3 | .0 | .6 | .0 | .3 | .9 | 1.4 | 2.9 | 3.4 | 1.2 |
| 2000 | .1 | .1 | .2 | .3 | .3 | .0 | -.7 | .5 | .0 | -.4 | -.5 | -.8 | 1.7 | 2.9 | -.9 | -3.4 | 1.8 |
| 2001 | -.8 | -.3 | -.2 | -.1 | -.1 | -.9 | .1 | -.6 | -.9 | | | | -6.9 | -2.7 | -4.9 | | |
| IP (1992=100) | | | | | | | | | | | | | | | | | |
| 1999 | 119.3 | 119.4 | 119.9 | 119.6 | 120.2 | 120.1 | 120.6 | 120.9 | 120.9 | 121.7 | 121.7 | 122.1 | 119.5 | 119.9 | 120.8 | 121.8 | 120.5 |
| 2000 | 122.2 | 122.3 | 122.6 | 123.0 | 123.4 | 123.4 | 122.5 | 123.2 | 123.2 | 122.6 | 122.0 | 121.1 | 122.4 | 123.2 | 122.9 | 121.9 | 122.6 |
| 2001 | 120.1 | 119.7 | 119.5 | 119.4 | 119.2 | 118.2 | 118.3 | 117.6 | 116.5 | | | | 119.7 | 118.9 | 117.5 | | |
| Capacity (percent of 1992 output) | | | | | | | | | | | | | | | | | |
| 1999 | 147.1 | 147.3 | 147.6 | 147.8 | 148.1 | 148.3 | 148.5 | 148.7 | 148.9 | 149.1 | 149.3 | 149.5 | 147.3 | 148.1 | 148.7 | 149.3 | 148.3 |
| 2000 | 149.6 | 149.8 | 150.0 | 150.2 | 150.3 | 150.5 | 150.7 | 150.8 | 150.9 | 151.0 | 151.2 | 151.3 | 149.8 | 150.3 | 150.8 | 151.2 | 150.5 |
| 2001 | 151.3 | 151.4 | 151.5 | 151.6 | 151.6 | 151.7 | 151.7 | 151.8 | 151.9 | | | | 151.4 | 151.6 | 151.8 | | |
| Utilization (percent) | | | | | | | | | | | | | | | | | |
| 1979 | 86.6 | 87.1 | 87.1 | 86.1 | 86.8 | 86.6 | 85.8 | 85.2 | 85.1 | 85.3 | 84.7 | 84.3 | 86.9 | 86.5 | 85.4 | 84.7 | 85.9 |
| 1980 | 84.4 | 84.3 | 84.1 | 82.1 | 79.8 | 78.7 | 78.0 | 78.8 | 80.0 | 80.4 | 81.6 | 81.8 | 84.3 | 80.2 | 78.9 | 81.3 | 81.2 |
| 1981 | 81.0 | 81.2 | 81.5 | 80.7 | 81.3 | 81.6 | 82.2 | 81.6 | 80.7 | 79.9 | 78.5 | 77.3 | 81.2 | 81.2 | 81.5 | 78.6 | 80.6 |
| 1982 | 76.0 | 77.4 | 76.7 | 75.9 | 75.1 | 74.7 | 73.9 | 73.5 | 72.6 | 71.8 | 71.5 | 70.5 | 76.7 | 75.2 | 73.3 | 71.3 | 74.1 |
| 1983 | 72.3 | 72.0 | 72.6 | 73.4 | 74.2 | 74.5 | 75.8 | 76.8 | 78.0 | 78.4 | 78.2 | 78.6 | 72.3 | 74.0 | 76.9 | 78.4 | 75.4 |
| 1984 | 80.0 | 79.7 | 80.4 | 80.6 | 80.8 | 81.0 | 80.9 | 80.7 | 80.5 | 80.0 | 79.9 | 79.3 | 80.1 | 80.8 | 80.7 | 79.7 | 80.3 |
| 1985 | 79.5 | 80.0 | 80.1 | 80.0 | 80.0 | 79.8 | 79.3 | 79.6 | 80.0 | 79.1 | 79.2 | 79.6 | 79.9 | 79.9 | 79.6 | 79.3 | 79.7 |
| 1986 | 80.1 | 79.4 | 78.5 | 79.0 | 78.7 | 78.5 | 78.4 | 78.5 | 78.3 | 79.0 | 79.3 | 80.0 | 79.3 | 78.7 | 78.4 | 79.4 | 79.0 |
| 1987 | 79.4 | 80.2 | 80.5 | 80.8 | 81.1 | 81.7 | 82.1 | 82.2 | 81.9 | 83.0 | 83.2 | 83.5 | 80.0 | 81.2 | 82.1 | 83.2 | 81.6 |
| 1988 | 83.6 | 83.7 | 83.7 | 84.0 | 83.8 | 83.9 | 84.3 | 84.6 | 84.3 | 84.6 | 85.0 | 85.3 | 83.7 | 83.9 | 84.4 | 85.0 | 84.2 |
| 1989 | 85.7 | 85.0 | 85.6 | 85.6 | 84.9 | 84.6 | 83.6 | 83.9 | 83.5 | 83.2 | 83.3 | 83.4 | 85.4 | 85.0 | 83.7 | 83.3 | 84.4 |
| 1990 | 83.0 | 83.3 | 83.7 | 83.1 | 83.3 | 83.1 | 83.0 | 83.0 | 83.0 | 82.4 | 81.1 | 80.5 | 83.3 | 83.2 | 83.0 | 81.4 | 82.7 |
| 1991 | 80.0 | 79.2 | 78.4 | 78.6 | 79.1 | 80.0 | 80.0 | 79.9 | 80.6 | 80.4 | 80.2 | 79.5 | 79.2 | 79.2 | 80.2 | 80.0 | 79.7 |
| 1992 | 79.3 | 79.5 | 80.1 | 80.6 | 80.6 | 80.2 | 80.7 | 80.3 | 80.4 | 80.8 | 81.0 | 81.0 | 79.7 | 80.5 | 80.4 | 80.9 | 80.4 |
| 1993 | 81.2 | 81.5 | 81.5 | 81.6 | 81.0 | 81.1 | 81.2 | 80.9 | 81.6 | 81.6 | 81.8 | 82.2 | 81.4 | 81.2 | 81.2 | 81.9 | 81.4 |
| 1994 | 82.2 | 82.3 | 82.7 | 82.7 | 83.2 | 83.3 | 83.5 | 83.5 | 83.3 | 83.4 | 83.7 | 84.2 | 82.4 | 83.1 | 83.4 | 83.7 | 83.1 |
| 1995 | 84.2 | 83.8 | 83.5 | 83.0 | 83.0 | 83.1 | 82.5 | 83.2 | 83.3 | 82.5 | 82.4 | 82.2 | 83.8 | 83.0 | 83.0 | 82.4 | 83.1 |
| 1996 | 81.8 | 82.4 | 81.9 | 82.6 | 82.9 | 83.3 | 82.8 | 82.9 | 82.9 | 82.5 | 83.0 | 83.0 | 82.0 | 82.9 | 82.9 | 82.8 | 82.7 |
| 1997 | 83.1 | 83.6 | 83.3 | 83.4 | 83.3 | 83.3 | 83.4 | 83.8 | 83.9 | 84.2 | 84.2 | 84.0 | 83.3 | 83.3 | 83.7 | 84.2 | 83.6 |
| 1998 | 83.8 | 83.3 | 83.3 | 83.3 | 83.3 | 82.1 | 81.4 | 82.8 | 82.1 | 82.0 | 81.3 | 81.0 | 83.5 | 82.9 | 82.1 | 81.4 | 82.5 |
| 1999 | 81.1 | 81.0 | 81.2 | 80.9 | 81.2 | 81.0 | 81.2 | 81.3 | 81.2 | 81.7 | 81.5 | 81.7 | 81.1 | 81.0 | 81.3 | 81.6 | 81.3 |
| 2000 | 81.6 | 81.6 | 81.7 | 81.9 | 82.1 | 82.0 | 81.3 | 81.7 | 81.6 | 81.2 | 80.7 | 80.0 | 81.7 | 82.0 | 81.5 | 80.6 | 81.5 |
| 2001 | 79.3 | 79.0 | 78.9 | 78.8 | 78.6 | 77.9 | 78.0 | 77.4 | 76.7 | | | | 79.1 | 78.4 | 77.4 | | |

NOTE. Excluded industries are computers, communications equipment, and semiconductors and related electronic components. See also note to table 11.

Table 14

HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing Excluding Selected High-Technology Industries

Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| IP (percent change) | | | | | | | | | | | | | | | | | |
| 1979 | -.7 | .7 | .3 | -1.7 | 1.4 | .0 | -.6 | -1.1 | -.1 | .4 | -.9 | -.2 | 1.9 | -1.2 | -3.8 | -2.9 | 2.2 |
| 1980 | .0 | .1 | -.6 | -2.4 | -3.4 | -1.5 | -.9 | 1.7 | 1.6 | 1.0 | 1.7 | .2 | -2.3 | -19.9 | -5.6 | 16.5 | -5.4 |
| 1981 | -.6 | .4 | .2 | .1 | .7 | -.3 | .5 | -.9 | -1.1 | -1.2 | -1.8 | -2.0 | 1.8 | 2.8 | -1.7 | -15.0 | .5 |
| 1982 | -2.1 | 2.7 | -.8 | -.9 | -.5 | -.1 | -1.0 | -.3 | -.9 | -1.4 | -.4 | -1.1 | -9.4 | -3.4 | -6.7 | -10.2 | -7.4 |
| 1983 | 3.1 | .3 | 1.3 | 1.0 | 1.4 | .6 | 1.5 | 1.1 | 2.1 | .4 | .1 | -.1 | 12.1 | 13.2 | 16.3 | 9.1 | 4.7 |
| 1984 | 2.3 | .4 | .6 | .3 | .1 | .5 | .2 | -.1 | -.3 | .0 | .0 | -.4 | 11.6 | 4.0 | 1.4 | -1.3 | 8.1 |
| 1985 | .0 | .6 | .6 | .1 | .5 | -.1 | -.5 | .9 | .4 | -.8 | .8 | -.1 | 1.2 | 4.0 | 1.4 | 1.1 | 1.5 |
| 1986 | 1.6 | -.6 | -1.0 | 1.5 | -.2 | -.1 | -.1 | .6 | -.1 | .9 | .3 | 1.3 | 4.4 | 1.9 | .3 | 6.6 | 2.5 |
| 1987 | -1.0 | 1.6 | .1 | .6 | .4 | .9 | .6 | -.2 | .0 | 1.3 | .5 | .5 | 4.1 | 7.1 | 4.8 | 6.9 | 4.8 |
| 1988 | -.2 | .2 | .1 | .8 | -.4 | .0 | .6 | .1 | .3 | .4 | .8 | .5 | 1.8 | 2.6 | 2.9 | 5.3 | 4.0 |
| 1989 | .9 | -1.1 | .8 | .0 | -.7 | -.1 | -1.0 | .3 | -.3 | -.4 | .2 | -.1 | 4.1 | -1.7 | -5.0 | -1.8 | 1.4 |
| 1990 | -.1 | .9 | .4 | -.7 | .4 | -.2 | .1 | .2 | .0 | -.7 | -1.4 | -.7 | 2.7 | -.1 | .4 | -7.1 | -.9 |
| 1991 | -.8 | -.8 | -1.2 | .4 | .7 | 1.5 | .2 | .1 | 1.2 | -.2 | -.3 | -.6 | -10.3 | 1.0 | 7.8 | 1.0 | -2.8 |
| 1992 | .0 | .5 | 1.0 | .6 | .3 | -.2 | .6 | -.3 | .2 | .5 | .5 | -.1 | .6 | 6.3 | 1.7 | 3.1 | 2.9 |
| 1993 | .8 | .3 | .1 | .5 | -.5 | .0 | .2 | -.4 | 1.2 | .1 | .4 | .8 | 4.3 | 1.3 | .6 | 5.2 | 2.9 |
| 1994 | .0 | .4 | .8 | .5 | .8 | .0 | .6 | .3 | .1 | .4 | .7 | .8 | 4.5 | 7.1 | 4.5 | 5.2 | 4.5 |
| 1995 | .3 | -.5 | -.1 | -.5 | .1 | .3 | -.8 | 1.0 | .6 | -.7 | -.1 | -.1 | 2.9 | -2.0 | 1.3 | -.3 | 2.4 |
| 1996 | -.3 | .8 | -.5 | 1.2 | .7 | .7 | -.1 | .2 | .3 | -.4 | .8 | .4 | -2 | 7.6 | 3.6 | 2.0 | 1.9 |
| 1997 | .3 | .9 | .0 | .3 | .0 | .5 | .4 | .9 | .4 | .6 | .5 | .1 | 5.8 | 3.2 | 6.2 | 6.7 | 4.7 |
| 1998 | .3 | -.2 | .2 | .6 | .2 | -1.2 | -.5 | 2.2 | -.6 | .4 | -.5 | -.1 | 2.0 | 1.4 | .0 | 1.6 | 3.2 |
| 1999 | .2 | .2 | .2 | -.2 | .6 | -.1 | .3 | .4 | .1 | .7 | .2 | .2 | .7 | 1.4 | 2.7 | 4.4 | 1.5 |
| 2000 | .1 | .0 | .5 | .1 | .2 | .0 | -.7 | .3 | .1 | -.4 | -.8 | -1.2 | 1.5 | 2.4 | -1.4 | -4.5 | 1.7 |
| 2001 | -.8 | -.2 | -.3 | -.1 | -.1 | -1.0 | .3 | -.9 | -1.0 | | | | -8.2 | -3.2 | -5.1 | | |
| IP (1992=100) | | | | | | | | | | | | | | | | | |
| 1999 | 121.2 | 121.5 | 121.7 | 121.5 | 122.2 | 122.0 | 122.4 | 122.9 | 123.0 | 123.9 | 124.1 | 124.3 | 121.5 | 121.9 | 122.7 | 124.1 | 122.5 |
| 2000 | 124.3 | 124.3 | 124.9 | 125.1 | 125.4 | 125.3 | 124.5 | 124.9 | 125.0 | 124.6 | 123.6 | 122.1 | 124.5 | 125.2 | 124.8 | 123.4 | 124.5 |
| 2001 | 121.1 | 120.8 | 120.4 | 120.3 | 120.2 | 119.0 | 119.3 | 118.3 | 117.1 | | | | 120.8 | 119.8 | 118.2 | | |
| Capacity (percent of 1992 output) | | | | | | | | | | | | | | | | | |
| 1999 | 151.0 | 151.3 | 151.6 | 151.8 | 152.1 | 152.3 | 152.5 | 152.7 | 153.0 | 153.2 | 153.4 | 153.5 | 151.3 | 152.1 | 152.7 | 153.4 | 152.4 |
| 2000 | 153.7 | 153.9 | 154.1 | 154.3 | 154.4 | 154.6 | 154.8 | 154.9 | 155.0 | 155.2 | 155.3 | 155.4 | 153.9 | 154.4 | 154.9 | 155.3 | 154.6 |
| 2001 | 155.5 | 155.6 | 155.6 | 155.7 | 155.8 | 155.8 | 155.9 | 156.0 | 156.0 | | | | 155.6 | 155.8 | 156.0 | | |
| Utilization (percent) | | | | | | | | | | | | | | | | | |
| 1979 | 86.3 | 86.7 | 86.8 | 85.2 | 86.2 | 86.0 | 85.4 | 84.2 | 84.0 | 84.2 | 83.3 | 83.0 | 86.6 | 85.8 | 84.5 | 83.5 | 85.1 |
| 1980 | 82.8 | 82.8 | 82.2 | 80.1 | 77.2 | 75.9 | 75.1 | 76.3 | 77.4 | 78.0 | 79.2 | 79.2 | 82.6 | 77.8 | 76.3 | 78.8 | 78.8 |
| 1981 | 78.6 | 78.8 | 78.9 | 78.8 | 79.3 | 78.9 | 79.2 | 78.4 | 77.5 | 76.5 | 75.0 | 73.4 | 78.8 | 79.0 | 78.4 | 75.0 | 77.8 |
| 1982 | 71.9 | 73.8 | 73.2 | 72.5 | 72.0 | 71.9 | 71.1 | 70.9 | 70.2 | 69.2 | 68.8 | 68.0 | 72.9 | 72.1 | 70.7 | 68.7 | 71.1 |
| 1983 | 70.1 | 70.3 | 71.2 | 71.9 | 72.9 | 73.3 | 74.4 | 75.2 | 76.8 | 77.0 | 77.1 | 77.0 | 70.5 | 72.7 | 75.5 | 77.1 | 73.9 |
| 1984 | 78.7 | 79.0 | 79.3 | 79.4 | 79.3 | 79.6 | 79.6 | 79.4 | 79.0 | 78.9 | 78.8 | 78.4 | 79.0 | 79.4 | 79.3 | 78.7 | 79.1 |
| 1985 | 78.2 | 78.5 | 78.8 | 78.7 | 78.9 | 78.7 | 78.1 | 78.7 | 78.8 | 78.0 | 78.5 | 78.2 | 78.5 | 78.8 | 78.5 | 78.2 | 78.5 |
| 1986 | 79.4 | 78.8 | 78.0 | 79.0 | 78.8 | 78.6 | 78.4 | 78.8 | 78.6 | 79.2 | 79.3 | 80.2 | 78.7 | 78.8 | 78.6 | 79.6 | 78.9 |
| 1987 | 79.3 | 80.5 | 80.5 | 80.9 | 81.1 | 81.8 | 82.2 | 82.0 | 81.9 | 82.9 | 83.2 | 83.6 | 80.1 | 81.3 | 82.0 | 83.2 | 81.7 |
| 1988 | 83.3 | 83.5 | 83.4 | 84.0 | 83.6 | 83.6 | 84.1 | 84.1 | 84.3 | 84.5 | 85.1 | 85.4 | 83.4 | 83.8 | 84.2 | 85.0 | 84.1 |
| 1989 | 86.1 | 85.0 | 85.5 | 85.3 | 84.5 | 84.3 | 83.2 | 83.4 | 82.9 | 82.5 | 82.5 | 82.3 | 85.5 | 84.7 | 83.2 | 82.4 | 83.9 |
| 1990 | 82.1 | 82.8 | 83.0 | 82.3 | 82.4 | 82.1 | 82.1 | 82.1 | 81.9 | 81.3 | 80.0 | 79.3 | 82.6 | 82.3 | 82.0 | 80.2 | 81.8 |
| 1991 | 78.5 | 77.8 | 76.8 | 77.0 | 77.5 | 78.5 | 78.6 | 78.6 | 79.5 | 79.3 | 78.9 | 78.4 | 77.7 | 77.7 | 78.9 | 78.9 | 78.3 |
| 1992 | 78.3 | 78.6 | 79.3 | 79.7 | 79.8 | 79.5 | 79.9 | 79.6 | 79.6 | 79.9 | 80.1 | 79.9 | 78.7 | 79.7 | 79.7 | 80.0 | 79.5 |
| 1993 | 80.4 | 80.5 | 80.5 | 80.9 | 80.3 | 80.2 | 80.3 | 79.9 | 80.7 | 80.6 | 80.8 | 81.3 | 80.5 | 80.5 | 80.3 | 80.9 | 80.5 |
| 1994 | 81.2 | 81.3 | 81.8 | 82.1 | 82.6 | 82.4 | 82.7 | 82.8 | 82.7 | 82.8 | 83.2 | 83.7 | 81.4 | 82.3 | 82.7 | 83.2 | 82.4 |
| 1995 | 83.8 | 83.2 | 82.9 | 82.4 | 82.2 | 82.3 | 81.5 | 82.1 | 82.5 | 81.7 | 81.4 | 81.1 | 83.3 | 82.3 | 82.0 | 81.4 | 82.3 |
| 1996 | 80.7 | 81.1 | 80.6 | 81.3 | 81.7 | 82.1 | 81.9 | 81.9 | 81.9 | 81.4 | 81.9 | 82.0 | 80.8 | 81.7 | 81.9 | 81.8 | 81.6 |
| 1997 | 82.1 | 82.6 | 82.4 | 82.4 | 82.2 | 82.4 | 82.5 | 83.0 | 83.1 | 83.3 | 83.4 | 83.1 | 82.4 | 82.4 | 82.8 | 83.3 | 82.7 |
| 1998 | 83.1 | 82.6 | 82.4 | 82.5 | 82.4 | 81.1 | 80.4 | 81.8 | 81.1 | 81.2 | 80.6 | 80.3 | 82.7 | 82.0 | 81.1 | 80.7 | 81.6 |
| 1999 | 80.3 | 80.3 | 80.3 | 80.0 | 80.4 | 80.1 | 80.2 | 80.4 | 80.4 | 80.9 | 80.9 | 80.9 | 80.3 | 80.2 | 80.4 | 80.9 | 80.4 |
| 2000 | 80.9 | 80.8 | 81.0 | 81.1 | 81.2 | 81.0 | 80.4 | 80.6 | 80.6 | 80.3 | 79.6 | 78.5 | 80.9 | 81.1 | 80.6 | 79.5 | 80.5 |
| 2001 | 77.9 | 77.7 | 77.4 | 77.3 | 77.2 | 76.3 | 76.5 | 75.9 | 75.1 | | | | 77.6 | 76.9 | 75.8 | | |

NOTE. See note to table 13.

EXPLANATORY NOTE

The **Industrial Production and Capacity Utilization** statistical release, which is published around the middle of the month, reports measures of output, capacity, and capacity utilization in manufacturing, mining, and the electric and gas utilities industries. The release also includes monthly indexes on the use of electric power in manufacturing and mining. More detailed descriptions of industrial production, capacity utilization, and electric power are available at www.federalreserve.gov/releases/G17 at the Board's World Wide Web site. In addition, files containing data shown in the release, more detailed series that were published in the G.17 prior to December 2000, and historical data are available at the Board's Web site. Instructions for searching for and downloading specific series are provided as well. For paid access to the data files through the Department of Commerce's Economic Bulletin Board or World Wide Web site, please call STAT-USA at 1-800-STAT-USA or 202-452-1986. Diskettes containing historical data and the data published in this release also are available from the Board of Governors of the Federal Reserve System, Publications Services, 202-452-3245.

INDUSTRIAL PRODUCTION

Coverage. The industrial production (IP) index measures the real output of the manufacturing, mining, and electric and gas utilities industries; the reference period for the index is 1992. For the period since 1997, the total IP index has been constructed from 276 individual series based on the 1987 Standard Industrial Classification (SIC) codes. These individual series are classified in two ways: (1) market groups, and (2) industry groups. Market groups consist of products and materials. Total products are the aggregate of final products, such as consumer goods and equipment, and intermediate products (which are inputs to nonindustrial sectors). Materials are inputs in the manufacture of products. Major industry groups include two-digit SIC industries and aggregates of these industries—for example, durable and nondurable manufacturing, mining, and utilities. A complete description of the market and industry structures, including details regarding series classification, relative importance weights, and data sources, is available on the Board's web site (www.federalreserve.gov/releases/G17/About.html). Changes in output for the market and industry groups are summarized in table 1 and the levels of output (in index form) are shown in table 4. Special aggregates, that highlight the relative importance and contributions of several key industries, such as high-technology and motor vehicles, are summarized in tables 2 and 5. For a detailed description of the contents of the statistical tables, see below.

Source data. On a monthly basis, the individual indexes of industrial production are constructed from two main types of source data: (1) output measured in physical units and (2) data on inputs to the production process, from which output is inferred. Data on physical products, such as tons of steel or barrels of oil, are obtained from private trade associations and from government agencies; data of this type are used to estimate monthly IP wherever possible and appropriate. Production indexes for a few industries are derived by dividing estimated nominal output (calculated using unit production or sales and unit values) by a corresponding Fisher price index; the most notable of these fall within the high-technology grouping and include computers and semiconductors. When suitable data on physical product are not available, estimates of output are based on either production-worker hours or electric power use by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The data on electric power use are described below. The factors used to convert inputs into estimates of production are based on historical relationships between the inputs and the comprehensive annual data used to benchmark the IP indexes; these factors also may be influenced by technological or cyclical developments. The annual data used in benchmarking the individual IP indexes are constructed from a variety of source data, such as the quinquennial *Censuses of Manufactures and Mineral Industries* and the *Annual Survey of Manufactures*, prepared by the Bureau of the Census; the *Minerals Yearbook*, prepared by the United States Geological Survey of the Department of the Interior; and publications of the Department of Energy.

Aggregation Methodology and Weights. The aggregation method for the IP index is a version of the Fisher-ideal index formula. (For a detailed discussion of the aggregation method, see *Federal Reserve Bulletin* February 1997 and March 2001.) In the IP index, series that measure the output of an individual industry are combined using weights derived from their proportion in the total value-added output of all industries. The IP index, which extends back to 1919, is built as a chain-type index since 1977. Between 1977 and 1992, the weights for months from January to June were drawn from the year containing the month being estimated and the preceding year; for months from July to December, the weights are drawn from the current and following year. Since mid-1992, the weights change monthly, eliminating distortions in the contributions of several high-technology industries—sectors where weights shift noticeably year-to-year. Thus, the current formula for the growth in monthly IP (or any of the sub-aggregates) since mid 1992 is the geometric mean of the change in output (I), and, as can be seen below, is computed using the unit value added estimate for the current month (p_m) and the estimate for previous month:

$$\frac{I_m^A}{I_{m-1}^A} = \sqrt{\frac{\sum I_m p_{m-1}}{\sum I_{m-1} p_{m-1}} \times \frac{\sum I_m p_m}{\sum I_{m-1} p_m}}$$

The IP proportions (typically shown in the first column of the relevant tables in the G.17 release) are estimates of the industries' relative contributions to overall growth in the following year. For example, the relative importance weight of the motor vehicles and parts industry is about 5 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by ½ percentage point ($0.05 \times 10\% = 0.5\%$). To assist users with calculations, the Federal Reserve's web site provides supplemental monthly statistics that represent the exact proportionate contribution of a monthly change in a component index to the monthly change in the total index (www.federalreserve.gov/releases/G17/ipdisk/ipweights.sa).

Timing. The first estimate of output for a month is published around the 15th of the following month. The estimate is preliminary (denoted by the superscript "p" in tables) and subject to revision in each of the subsequent three months as new source data become available. (Revised estimates are denoted by the superscript "r" in tables.) For the first estimate of output for a given month, about 48 percent of the source data (in value-added terms) are available; the fraction of available source data increases to about 85 percent for estimates in the second month that the estimate is published, 96 percent in the third month, and 97 percent in the fourth month. Data availability by data type is summarized in the table below:

Proportion (in percent) of industrial production covered by data available in successive monthly estimates, 1999.

| Type of data | Month of estimate | | | |
|--|-------------------|-----|-----------------|----------------|
| | 1st | 2nd | 3rd | 4th |
| Physical product | 19 ¹ | 33 | 46 ² | 47 |
| Production-worker hours | 28 ³ | 28 | 28 | 28 |
| Electric power use | 0 | 22 | 22 | 22 |
| Federal Reserve estimates ⁴ | 53 | 17 | 3 | 3 ⁵ |
| Total industrial production | 100 | 100 | 100 | 100 |

1. Includes provisional series totaling nearly 13 percent of IP that are derived from weekly data and for which the actual data may lag several months.
2. Includes quarterly data totaling 6 percent of IP that, on average, are received for the third estimate of industrial production. Specifically, data are available for the second estimate of the last month of a quarter, the third estimate of the second month of a quarter, and the fourth estimate of the first month of a quarter.
3. This figure refers only to those individual series that both initially and ultimately are based on the hours data.

4. Estimates for series not yet covered by data for physical product or electric power use.

5. Includes monthly and quarterly physical product data totaling 3 percent of IP that typically are available too late for inclusion in the current index but are included at the time of an annual revision.

Until the source data for a particular series become available for a given month, estimates for the missing observations are based on other available data, such as labor input, recent trends in output and orders, and anecdotal reports from industry sources. After the fourth month that an estimate is published, indexes are not revised further until the time of an annual revision or a benchmark revision. These historical revisions are typically published in the late fall of each year; the most recent revision was published on December 5, 2000, and incorporated revised source data as well as data from the 1998 *Annual Survey of Manufactures* and the 1997 *Census of Manufactures*.

Seasonal adjustment. Individual series are seasonally adjusted using Census X-12 ARIMA. For series based on production-worker hours, the current seasonal factors were estimated with data through October 2000; for other series, the factors were estimated with data through at least June 2000. Series are pre-adjusted for the effects of holidays or the business cycle when appropriate. For the data since 1977, all seasonally adjusted aggregate indexes are calculated by aggregating the seasonally adjusted indexes of the individual series.

Reliability. The average revision to the *level* of the total IP index, without regard to sign, between the first and the fourth estimates was 0.27 percent during the 1987–99 period. The average revision to the *percent change* in total IP, without regard to sign, from the first to the fourth estimates was 0.21 percentage point during the 1987–99 period. In most cases (about 83 percent), the direction of change in output indicated by the first estimate for a given month is the same as that shown by the fourth estimate.

Rounding. The published percent changes are calculated from unrounded indexes, and may not be the same as percent changes calculated from the rounded indexes shown in the release.

CAPACITY UTILIZATION

Overview. The Federal Reserve Board constructs estimates of capacity and capacity utilization for industries in manufacturing, mining, and electric and gas utilities. For a given industry, the capacity utilization rate is equal to an output index (seasonally adjusted) divided by a capacity index. The Federal Reserve Board's capacity indexes attempt to capture the concept of *sustainable maximum output*—the greatest level of output a plant can maintain within the framework of a realistic work schedule, after factoring in normal downtime and assuming sufficient availability of inputs to operate the capital in place.

Coverage. Capacity indexes are constructed for 78 detailed industries (55 in manufacturing, 21 in mining, and 2 in utilities), which mostly correspond to industries at the two- and three-digit SIC level. Estimates of capacity and utilization are available for a variety of groups, including primary and advanced processing industries within manufacturing, durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Also, special aggregates are available, such as high-tech industries and manufacturing excluding high-tech industries. Component industries of the primary- and advanced-processing groups within manufacturing are listed in the note on table 2 of the release.

Source Data. The monthly rates of capacity utilization are designed to be consistent with both the monthly data on production and the periodically available data on capacity and utilization. Because there is no direct monthly information on overall industrial capacity or utilization rates, the Federal Reserve first estimates annual capacity indexes from the source data. Capacity data reported in physical units from government sources (primarily from the U.S. Geological Survey and the Department of Energy's Energy Information Administration) and trade sources are available for portions of several industries in manufacturing (*e.g.*, paper, industrial chemicals, petroleum refining, motor vehicles), as well as for electric utilities and mining; these industries represent about 15 percent of total industrial capacity. When physical product data are unavailable for manufacturing industries, capacity indexes are based on responses to the Bureau of the Census's *Survey of Plant Capacity* (SPC); these industries

account for a bit more than 80 percent of total industry capacity. In the absence of utilization data for a few mining and petroleum series, capacity is based on trends through peaks in production (roughly 4 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the Board's web site (www.federalreserve.gov/releases/G17/cap_notes.html).

Aggregation Methodology. Monthly capacity aggregates are calculated in three steps: (1) utilization aggregates are calculated on an annual basis through the most recent full year as capacity-weighted aggregates of individual utilization rates; (2) the annual aggregate capacity is derived from the corresponding production and utilization aggregates; (3) the monthly capacity aggregate is obtained by interpolating with a Fisher index of its constituent monthly capacity series. Utilization rates for the individual series and aggregates are calculated by dividing the pertinent monthly production index by the related capacity index.

Consistency. A major aim is that the Federal Reserve utilization rates be consistent over time so that, for example, a rate of 85 percent means about the same degree of tightness that it meant in the past. A major task for the Federal Reserve in developing reasonable and consistent time series of capacity and utilization is dealing with inconsistencies between the movements of the industrial production index and the survey-based utilization rates. The McGraw-Hill/DRI Survey, now discontinued, was the primary source of manufacturing utilization rates for many years. This was a survey of large companies that reported, on average, higher utilization rates than those reported by establishments covered by the SPC (currently the primary source of factory operating rates) for the fourteen years they overlapped. Adjustments have been made to keep the industry utilization rates currently reported by the Federal Reserve roughly in line with rates formerly reported by McGraw-Hill. As a consequence, the rates reported by the Federal Reserve tend to be higher than the rates reported in the SPC.

Perspective. Over the 1967–1999 period, the average total industry utilization rate is 82.0 percent; for manufacturing, the average factory operating rate has been 81.1 percent. Industrial plants usually operate at capacity utilization rates that are well below 100 percent: none of the broad aggregates has ever reached 100 percent. For total industry and total manufacturing, utilization rates have exceeded 90 percent only in wartime. The highs and lows in capacity utilization shown in table 6 are specific to each series and do not all occur in the same month.

ELECTRIC POWER

Coverage. Electric power data for sales by utilities to industry users and for electric power produced by cogenerators (manufacturing and mining firms that produce electricity for their own use or to sell to a utility) are generally collected at the 3-digit SIC level for mining and manufacturing. Aggregates for 2-digit industries, as well as for total mining, durable, nondurable, total manufacturing and total industrial electric power use, are computed. An aggregate showing total industry excluding nuclear nondefense is shown separately because the value-added proportion for the nondefense nuclear material series (part of SIC 2819) in total IP is considerably less than its share of total electric power use. In addition, aggregates for utility sales to industrial users and industry generation are computed. While only the major aggregates are shown in the release, data for the 2- and 3-digit industries are available on the Board's web site (www.federalreserve.gov/releases/G17).

Source Data. Electric power data are collected from a sample of utilities and cogenerators covering all twelve Federal Reserve Districts. The primary criterion for inclusion of a utility in the panel is whether the utility provides electric power to industrial customers. A comparison of Federal Reserve kilowatt-hour aggregates to estimates from the 1998 *Annual Survey of Manufactures* (the most recent available) suggests the Federal Reserve data cover about 75 percent of the overall sales to manufacturing in that year. The cogeneration panel covers about 50 percent of cogeneration used directly by manufacturers. In order to provide more complete coverage and correct for any shortcomings of the survey, the series are benchmarked at the 3-digit industry level to the latest available data from the *Annual Survey of Manufactures* and the *Census of Manufactures*.

Methodology. The data we receive from utilities and cogenerators are edited for anomalies and aggregated, using self weights, to the 3-digit SIC industry levels and above. Where reports are late or unavailable for some reason, responses are estimated.

Seasonal Adjustment. Series are seasonal adjusted at the 3-digit SIC level, with seasonally-adjusted aggregates typically computed as sums of seasonally adjusted components. The seasonal adjustment procedure (Census X-12 program) is used without trading-day adjustments because the reporting periods of the various utilities are not the same. A leap year adjustment is also made where appropriate.

Description of Tables.

Table 1 summarizes the latest changes in output for the major market and industry groupings. Fourth-quarter to fourth-quarter changes for the past three years are shown. Output changes expressed at an annual rate for the past four quarters as well as monthly changes for the latest four months are shown. In addition, year-over-year changes are displayed for the latest IP month.

Table 2, which is in the same format as table 1, summarizes the latest changes in output for a special group of aggregates that have been constructed for analytical purposes. The total index is sub-divided into two broad categories: an *energy* grouping, which includes consumer energy products, commercial energy products, energy materials, and oil and gas well drilling, and a *nonenergy* grouping, which includes the remaining portion of the total index. Within the nonenergy aggregate, several other analytically useful categories are shown. One of these is a grouping of high-technology industries, which is composed of semiconductors and related electronic components, and industries that use a large concentration of these parts—computers and communication equipment. Other sub-groupings of the market and industry structures excluding this high-technology grouping and motor vehicles and parts are shown.

Table 3 displays the last nine months of motor vehicle assemblies, shown at seasonally adjusted annual rates. Seasonal factors for auto, light truck, and medium and heavy truck production are available on the Board's web site (www.federalreserve.gov/releases/G17/mvsf.html). Monthly changes in the IP indexes for the corresponding motor vehicle series will differ slightly from the monthly changes in assemblies, mainly because the IP indexes are built from a weighted (based on relative values) aggregate of the individual models.

Tables 4 and 5 show seasonally adjusted indexes for recent months for the major market and industry groups included on table 1 and the special aggregates displayed on table 2.

Table 6 summarizes the capacity utilization for the major industry groupings as well as for a few special aggregates. In addition to the utilization rates for the most recent four months and four quarters, the 1967–1999 average of utilization rates and operating rates for relevant cyclical peaks and troughs also are shown for each series.

Table 7 summarizes capacity growth. Average rates of growth in capacity for selected historical periods and for the most recent five years (on a fourth-quarter to fourth-quarter basis) are shown. In addition, growth rates for capacity on an annual-average basis are shown for the latest four quarters; the capacity growth rate for the current IP month is shown as well.

Table 8 shows total products expressed in gross values in billions of chained 1996 dollars at an annual rate. Compiling the IP index using gross-value weights facilitates comparison with other dollar-based data. The gross-value system focuses on products that leave the industrial sector and includes both final and intermediate products. The materials consumed in making final and intermediate products are implicitly included in the value weights applied to product series. The gross-product weights are derived from *Census of Manufactures* and *Annual Survey of Manufactures* data.

Table 9 shows diffusion indexes, which are calculated as the percentage of IP series that increased over the relevant span (one, three, or six months) plus one-half of the percentage of series that were unchanged. Because available source data for the current IP month account for a little less than half of the total index, the diffusion indexes are published with a one-month lag.

Table 10 shows the most recent six months in index form (both seasonally and not seasonally adjusted) of electric power use by industry for the major industry aggregates.

Tables 11–14 display historical seasonally adjusted data for total IP and manufacturing as well as the aggregates excluding high-technology industries. Monthly changes in output as well as indexes for output, utilization, and capacity are shown.

Note: The summary tables in the G17 release do not include all of the publicly available data. The more detailed series for IP, utilization, capacity, and electric power are available at the Board's web site (www.federalreserve.gov/releases/G17/download.html).

REFERENCES AND RELEASE DATES

References. The annual revision published in early December 2000 was described in an article published in the March 2001 *Federal Reserve Bulletin*. The annual revision published late 1999 is described more completely in the *Federal Reserve Bulletin*, vol.86 (March 2000). A description of the aggregation methods for industrial production and capacity utilization is included in an article in the *Federal Reserve Bulletin*, vol. 83 (February 1997), pp. 67–92. The Federal Reserve methodology for constructing industry-level measures of capital is detailed in “Capital Stock Estimates for Manufacturing Industries: Methods and Data” by Mike Mohr and Charles Gilbert (1996), which can be obtained at www.federalreserve.gov/releases/g17/capital_stock_doc-latest.pdf.

Industrial Production—1986 Edition contains a more detailed description of the other methods used to compile the industrial production index, plus a history of its development, a glossary of terms, and a bibliography. The major revisions to the IP indexes and capacity utilization since 1990 have been described in the *Federal Reserve Bulletin* (April 1990, June 1990, June 1993, March 1994, January 1995, January 1996, February 1997, February 1998, January 1999, and March 2000).

Release Schedule

At 9:15 a.m. on

2001: January 17, February 16, March 16, April 17, May 14, June 15, July 17, August 15, September 14, October 16, November 16, and December 14.

2002: January 16, February 15, March 15, April 16, May 15, June 14, July 16, August 15, September 17, October 17, November 15, and December 17.