

# FEDERAL RESERVE statistical release



G.17 (419)

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## INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production increased 0.7 percent in November after an upward-revised gain of 1.3 percent in October. Further recoveries in petrochemical and energy-related industries affected by the hurricanes again contributed significantly to the increase in output in November. The upward revisions to the October production estimates were widespread. The largest contributor to the revision was the index for air conditioners, which was higher than previously estimated. Another notable upward revision was in the estimate of production of manufactured homes.

(over)

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

Industrial production	2002=100				Percent change				
	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	Nov. '04 to Nov. '05
<b>Total index</b>	108.6	106.9	108.2	109.0	.3	-1.6	1.3	.7	2.8
<i>Previous estimates</i>	108.5	106.9	107.9		.2	-1.5	.9		
<b>Major market groups</b>									
Final Products	110.0	109.1	111.2	110.7	.3	-.8	1.9	-.4	4.0
Consumer goods	105.6	106.1	105.9	105.1	.4	.4	-.1	-.8	1.4
Business equipment	120.1	115.0	123.5	124.6	.1	-4.2	7.3	1.0	10.4
Nonindustrial supplies	108.0	108.0	108.9	109.7	.5	.0	.8	.7	4.2
Construction	108.2	109.6	112.2	112.8	.6	1.3	2.3	.5	6.7
Materials	107.4	104.2	105.0	106.9	.2	-3.0	.8	1.8	1.0
<b>Major industry groups</b>									
Manufacturing (see note below)	109.5	108.8	110.8	111.1	.4	-.7	1.8	.3	3.9
<i>Previous estimates</i>	109.6	108.8	110.4		.4	-.7	1.4		
Mining	99.2	89.7	89.5	93.8	-.6	-9.6	-.2	4.8	-6.1
Utilities	108.4	106.7	104.5	104.8	.3	-1.6	-2.0	.3	1.8
<b>Capacity utilization</b>	Percent of capacity								Capacity growth
	Average 1972-2004	1994-95 high	2001-02 low	2004 Nov.	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	Nov. '04 to Nov. '05
<b>Total industry</b>	81.0	85.0	73.9	79.3	80.3	78.9	79.8	80.2	1.6
<i>Previous estimates</i>					80.2	78.9	79.5		
Manufacturing (see note below)	79.8	84.5	72.0	78.0	78.8	78.1	79.4	79.4	2.1
<i>Previous estimates</i>					78.8	78.1	79.0		
Mining	87.3	89.0	85.6	88.7	88.6	80.1	80.0	83.8	-.6
Utilities	86.8	93.7	83.7	83.9	88.2	86.8	85.1	85.4	.0
<b>Stage-of-process groups</b>									
Crude	86.4	89.4	83.2	88.2	86.8	77.8	78.5	82.6	-.9
Primary and semifinished	82.2	88.1	74.6	81.0	81.8	81.6	81.9	82.1	2.5
Finished	77.9	80.5	70.8	75.2	77.1	76.5	78.1	77.7	1.2

r Revised. p Preliminary.

NOTE- The statistics in this release cover output, capacity, and capacity utilization in the U.S. industrial sector, which is defined by the Federal Reserve to comprise manufacturing, mining, and electric and gas utilities. Mining is defined as all industries in sector 21 of the North American Industry Classification System (NAICS); electric and gas utilities are those in NAICS sectors 2211 and 2212. Manufacturing comprises NAICS manufacturing industries (sector 31-33) plus the logging industry and the newspaper, periodical, book, and directory publishing industries. Logging and publishing are classified elsewhere in NAICS (under agriculture and information respectively), but historically they were considered to be manufacturing and were included in the industrial sector under the Standard Industrial Classification (SIC) system. In December 2002 the Federal Reserve reclassified all its industrial output data from the SIC system to NAICS.

At 109.0 percent of its 2002 average, output in November was 2.8 percent above its year-ago level. Manufacturing output moved up 0.3 percent in November after an increase of 1.8 percent in October. The output at mines surged 4.8 percent in November after having fallen in the previous four months, and the output at utilities rose 0.3 percent. Capacity utilization for total industry increased to 80.2 percent, a rate 0.8 percentage point below its 1972-2004 average.

### Market Groups

The production of consumer goods fell 0.8 percent in November. The output of consumer durables dropped 2.9 percent, largely as a result of a steep decrease in the output of automotive products. The index of consumer nondurables edged up 0.1 percent, as an increase in the energy component more than offset a decline in non-energy nondurable goods. Within non-energy nondurables, the output of clothing posted a gain of 0.9 percent and partially reversed the decline in October. All other categories of non-energy nondurables declined in November.

The production of business equipment moved up 1.0 percent, and gains in this sector were widespread. The index for industrial and other equipment moved up 0.7 percent, and the index for information processing equipment advanced 1.3 percent. The output of transit equipment increased 1.1 percent and was nearly 13 percent higher than its year-ago level. The production of defense and space equipment dropped 0.5 percent after an increase in October. A strike in the guided missiles and space vehicles industry more than accounted for the decrease in November. The index for construction supplies posted another gain in November; the increases were concentrated in industries that may have benefited from rebuilding efforts in the wake of this year's major hurricanes. The output of business supplies moved up 0.7 percent.

The production of materials increased 1.8 percent. The index for energy materials jumped 3.8 percent, and the index for non-energy materials increased 1.1 percent. Within the durable materials component, a drop of 2.2 percent in the output of consumer parts partially offset gains in the production indexes for other durable materials. The production of equipment parts rose 2.1 percent in November, a move reflecting continued gains in the output of semiconductors and computer parts. Within the nondurable category, the output of textiles was unchanged, and the production of paper materials decreased. The output of chemical materials, which had fallen sharply in September because of the hurricanes, continued to recover and posted an increase of 5.1 percent.

### Industry Groups

Manufacturing production moved up in November, and the factory operating rate held steady at 79.4 percent. Within the durable goods category, which recorded a 0.2 percent decrease, the production of motor vehicles and parts fell 4.8 percent. The indexes for wood products, fabricated metal products, furniture and related products, and miscellaneous goods also posted declines, but production rose noticeably in primary metals, nonmetallic mineral products, computer and electronic products, and aerospace and miscellaneous transportation equipment. The production of nondurable goods rose 1.1 percent, its second consecutive monthly increase. The output of petroleum and coal products jumped 5.8 percent, its first gain in five months. Apparel and leather rose 1.0 percent, but this index was down 1.9 percent over the past twelve months. The production of non-NAICS manufacturing (logging and publishing) decreased 0.8 percent.

The output of mines shot up 4.8 percent in November; the operating rate in mining moved up 3.8 percentage points, to 83.8 percent. Oil and gas extraction moved up substantially but remained more than 8 percent below its level preceding Hurricane Katrina. Increases in the output of both electric and natural gas utilities contributed to a gain of 0.3 percent in utilities output; the operating rate at utilities rose to 85.4 percent.

By stage of process, capacity utilization for industries in the crude stage of processing jumped 4.1 percentage points, to 82.6 percent, but the rate was still more than 5 percentage points below its average rate in the first half of this year. Capacity utilization for industries in the primary and semifinished stages increased 0.2 percentage point, to 82.1 percent, while the utilization rate for finished goods producers declined 0.4 percentage point, to 77.7 percent. Capacity utilization rates for the primary and semifinished stages and for the finished stage were just below their respective long-run averages.

**Note:** This release includes the results from the final survey of industrial electric power use to be conducted by the Federal Reserve Board. The rate of response to the voluntary survey had dropped significantly since the early

1990s, with coverage in 2004 nearly 40 percent lower than at its peak in 1993. A notice seeking comment on the termination of the electric power survey was published in the *Federal Register* on September 29, 2005; by the end of the public comment period, November 28, 2005, no comments had been received. Although the indexes of electric power use will no longer be updated, the historical indexes will remain available on the historical data page for the G.17.

Until November 2005, calculation of the monthly production indexes for twenty industries had relied on measures of their electric power use. On November 7, the Federal Reserve substituted production-worker hours for electric power use in these twenty industries for the period 1997 to the present.

#### **Tables**

1. Industrial Production: Market and Industry Group Summary; percent change
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  15. Historical Statistics: Manufacturing Excluding Selected High-Technology Industries
- Further detail is available on the Board's web site ([www.federalreserve.gov/releases/G17/](http://www.federalreserve.gov/releases/G17/)).

### **Revision of Industrial Production and Capacity Utilization**

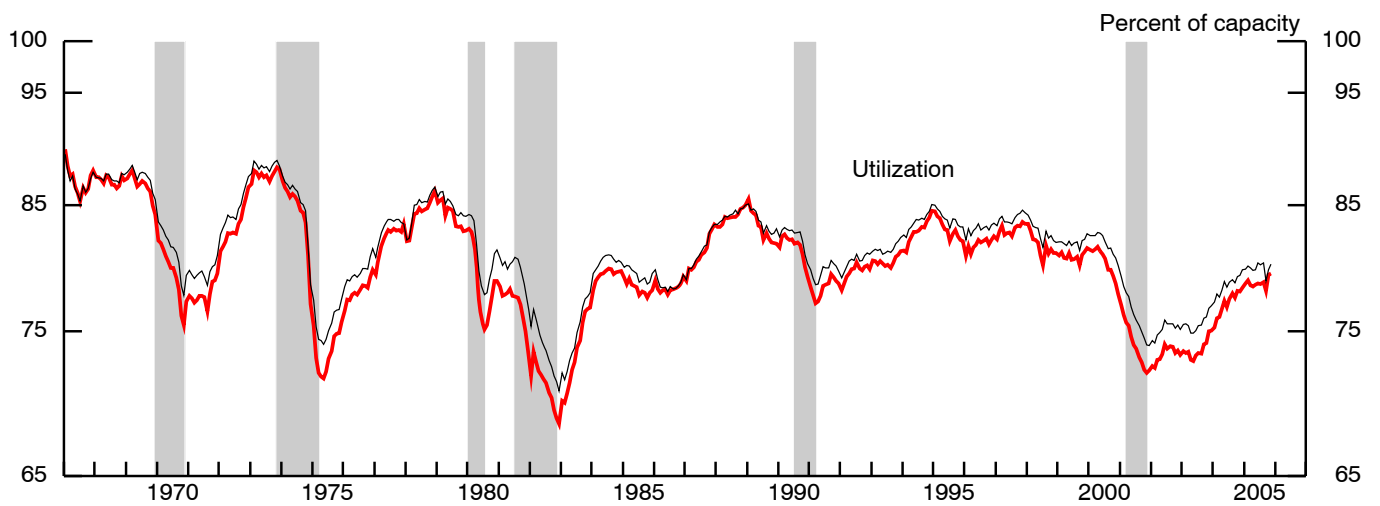
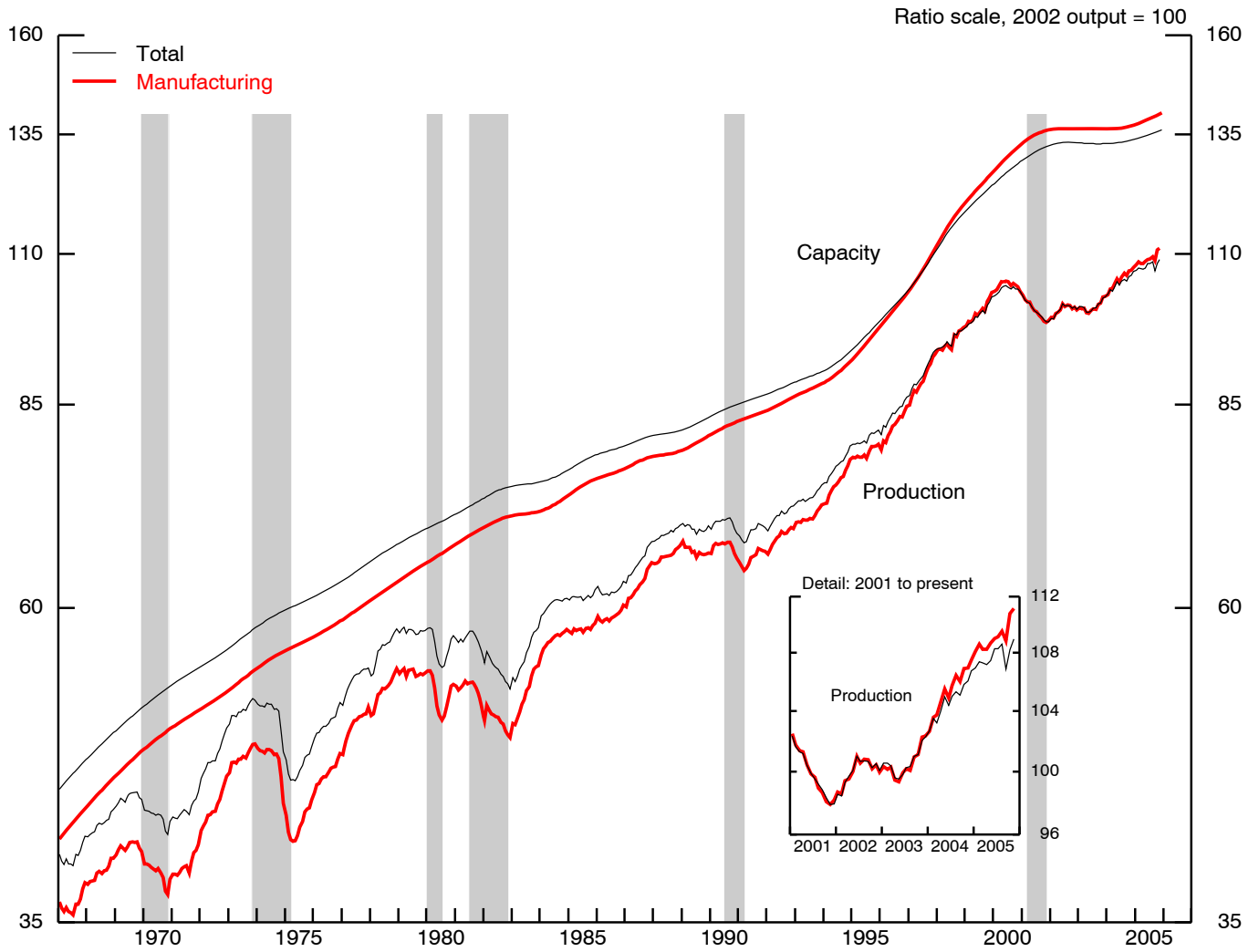
On November 7, 2005, the Federal Reserve Board issued its annual revisions to the index of industrial production (IP) and to the related measures of capacity and capacity utilization. The base year for the indexes of industrial production, capacity, and electric power use was advanced to 2002.

The revisions to the IP index were principally derived from information contained in annual reports issued by the Census Bureau—namely, the 2003 Annual Survey of Manufactures, the revised data from the 2002 Census of Manufactures, and selected 2004 Current Industrial Reports. Annual data on minerals (except fuels) for 2003 and 2004 from the U.S. Geological Survey and updated deflators from the Bureau of Economic Analysis were also introduced. The updating also included revisions to the monthly indicator for each industry (either physical product data or production-worker hours) and revisions to seasonal factors.

Capacity and capacity utilization were revised to incorporate data from the Census Bureau's 2004 Survey of Plant Capacity, which covers manufacturing, along with new data on capacity from the U.S. Geological Survey, the U.S. Department of Energy, and other organizations.

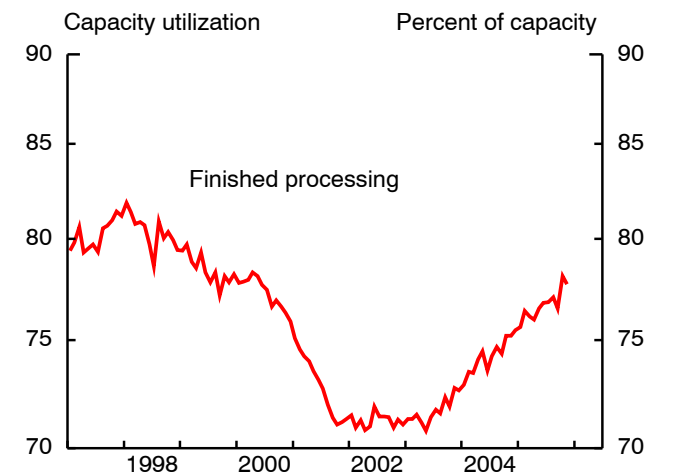
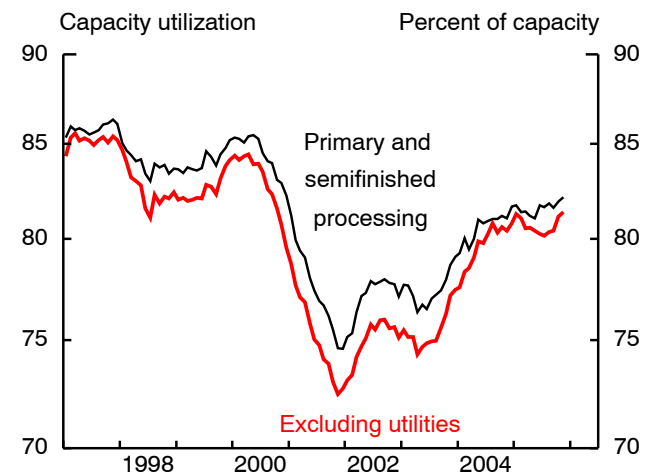
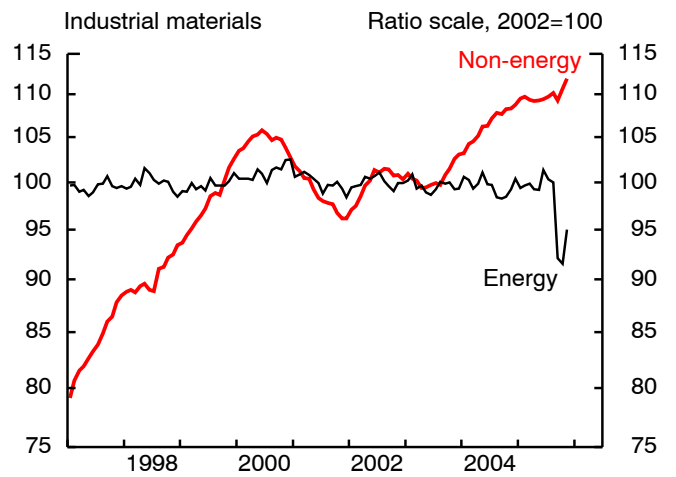
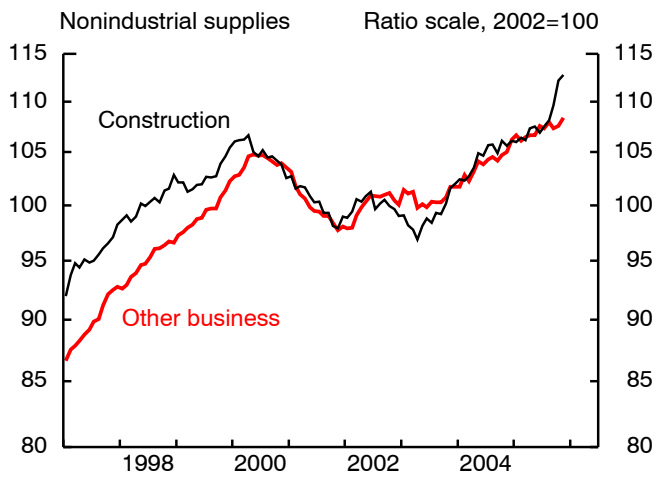
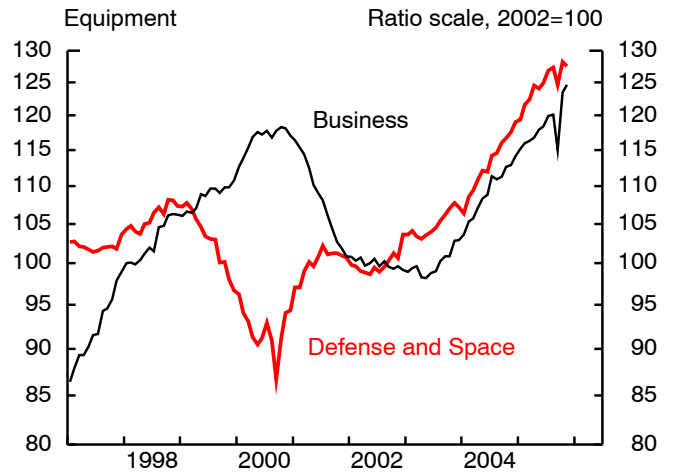
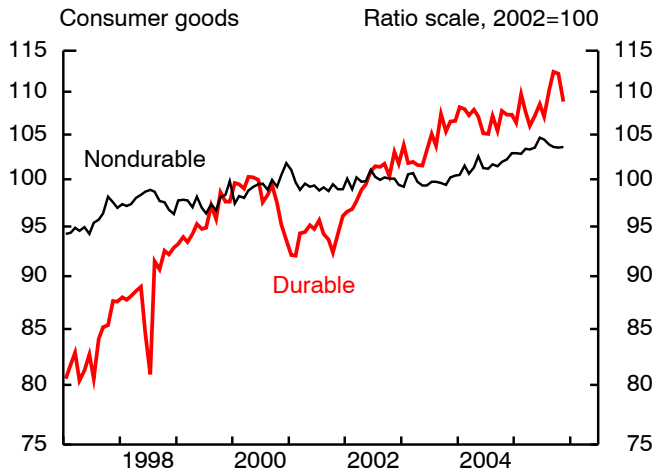
The revision is available on the Board's website at [www.federalreserve.gov/releases/G17](http://www.federalreserve.gov/releases/G17). The revised data are also available on the website of the Department of Commerce. Further information on these revisions is available from the Board's Industrial Output Section (telephone 202-452-3197).

# 1. Industrial production, capacity, and utilization

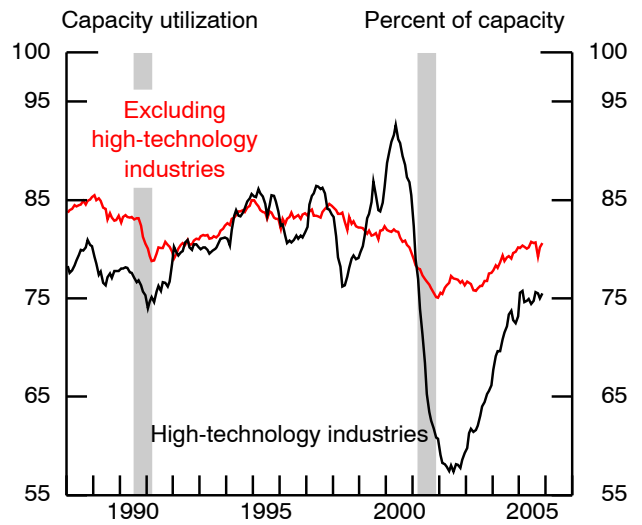
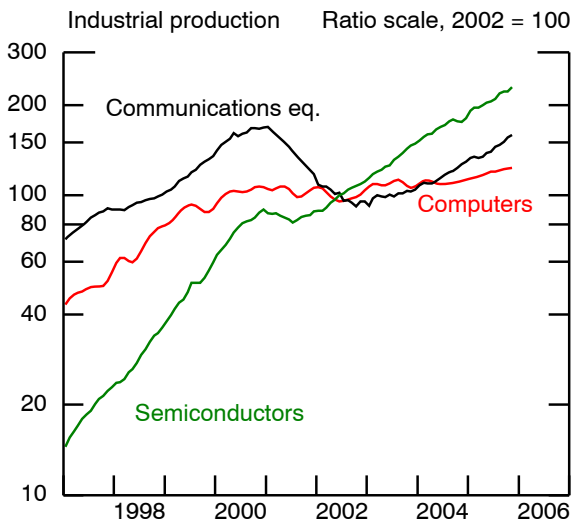
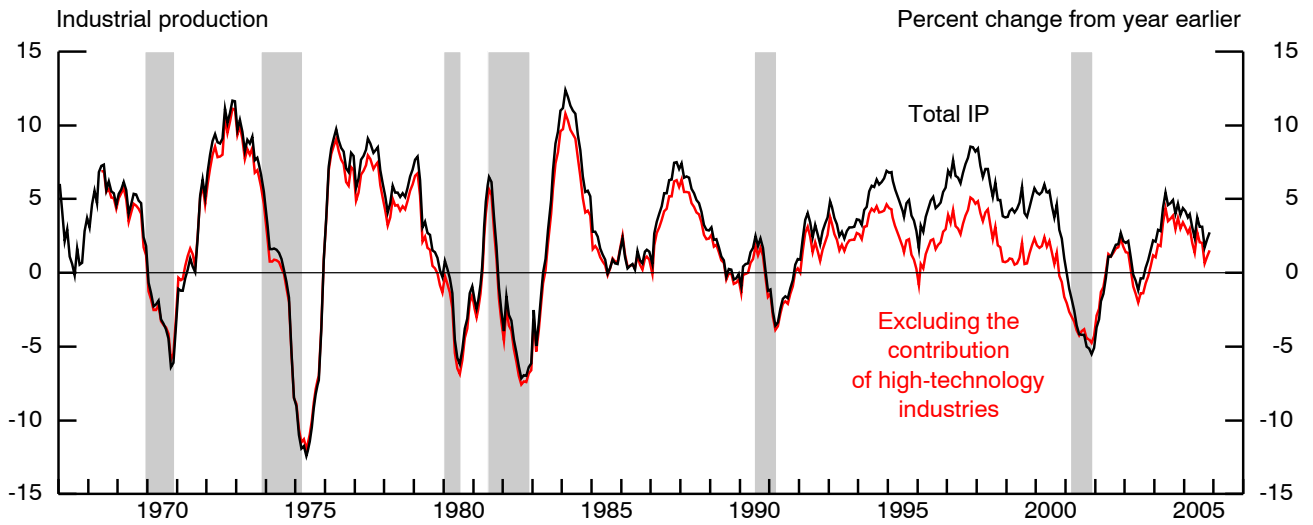
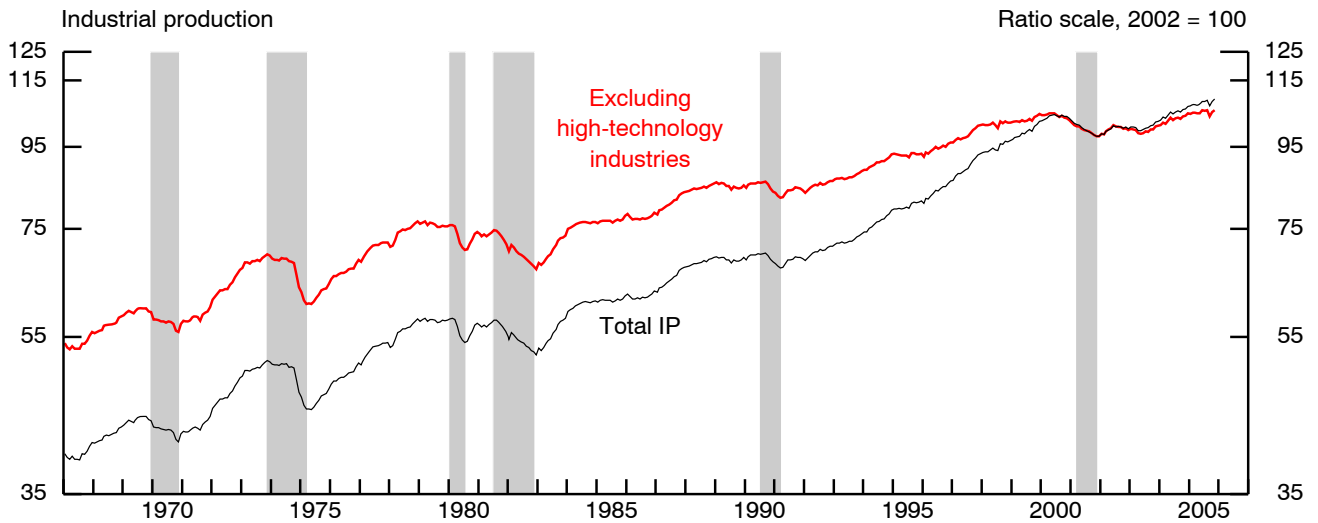


Notes: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER). See note on cover page.

## 2. Industrial production and capacity utilization



### 3. Industrial production and capacity utilization, high-technology industries



Notes: High-technology industries are defined as semiconductors and related electronic components (NAICS 334412-9), computers (NAICS 3341), and communications equipment (NAICS 3342). The 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	2004 proportion <sup>1</sup>	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Nov. '04 to Nov. '05
		2002	2003	2004	2004 Q4	2005 Q1	Q2	Q3 <sup>r</sup>	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total IP</b>	100.00	2.3	1.5	4.3	4.2	3.8	1.6	1.0	.3	-1.6	1.3	.7	2.8
<b>MARKET GROUPS</b>													
<b>Final products and nonindustrial supplies</b>	57.78	1.5	1.7	4.3	4.9	4.3	3.0	3.2	.4	-.6	1.6	-.1	4.0
<b>Consumer goods</b>	30.24	2.7	1.3	2.0	4.3	2.4	1.5	3.2	.4	-.4	-.1	-.8	1.4
<b>Durable</b>	8.66	7.9	4.3	1.3	6.0	1.7	-2.5	10.4	2.8	2.1	-.3	-2.9	1.4
Automotive products	4.70	12.4	6.5	.4	11.0	2.0	-4.2	16.2	4.6	2.6	-1.1	-5.2	.2
Home electronics	.27	-7.7	18.5	-3.7	17.5	3.5	31.8	-21.6	-2.2	-3.8	1.3	4.2	2.4
Appliances, furniture, carpeting	1.41	4.0	2.2	2.4	1.8	2.2	-2.2	10.3	1.3	1.8	-.3	-1.5	2.1
Miscellaneous goods	2.28	4.9	-.7	3.0	-2.5	.4	-2.9	3.0	.8	1.8	1.5	.2	3.4
<b>Nondurable</b>	21.57	.8	.1	2.3	3.6	2.7	3.1	.6	-.5	-.2	-.1	.1	1.4
Non-energy	17.39	-1.0	.6	2.5	2.8	3.2	2.4	-.9	-.6	.4	.4	-.3	1.4
Foods and tobacco	9.49	-3.1	2.1	1.8	1.0	1.2	3.2	1.0	-.8	.5	.3	-.4	1.2
Clothing	.76	-7.1	-9.3	-2.8	4.9	-6.7	-8.0	6.4	.4	.9	-1.3	.9	-2.6
Chemical products	4.76	4.0	1.0	3.0	4.4	4.0	2.2	-4.7	-.5	.2	.7	-.4	1.0
Paper products	1.89	-.5	-3.5	5.9	4.6	13.9	2.7	-5.2	-.3	-.3	.8	-.4	3.4
Energy	4.18	9.5	-1.9	1.7	7.2	.8	5.9	6.6	-.5	-2.6	-2.1	1.7	1.2
<b>Business equipment</b>	9.97	-2.3	2.8	10.8	7.5	9.5	6.7	2.3	.1	-4.2	7.3	1.0	10.4
Transit	1.86	-10.8	3.6	9.7	15.4	15.7	15.7	-28.4	.2	-25.3	38.6	1.1	12.8
Information processing	2.73	-8.9	6.5	14.6	15.8	17.7	12.7	23.0	1.7	1.5	2.3	1.3	19.4
Industrial and other	5.37	5.4	.4	9.2	.9	3.2	.5	5.4	-.8	.6	1.4	.7	4.9
<b>Defense and space equipment</b>	1.92	.8	5.4	9.7	10.1	12.0	11.5	5.8	.4	-2.2	2.9	-.5	8.5
<b>Construction supplies</b>	4.41	1.2	1.7	4.6	1.9	.9	4.1	4.5	.6	1.3	2.3	.5	6.7
<b>Business supplies</b>	10.78	2.5	.9	3.9	3.8	4.2	2.2	2.1	.5	-.5	.2	.7	3.2
<b>Materials</b>	42.22	3.4	1.2	4.3	3.1	3.2	-.3	-1.9	.2	-3.0	.8	1.8	1.0
<b>Non-energy</b>	30.19	4.4	1.7	6.0	3.4	4.1	-.8	1.5	.4	-.8	1.3	1.1	3.3
<b>Durable</b>	19.01	5.4	3.8	7.6	4.7	6.8	1.2	6.8	1.0	1.3	1.1	.6	6.9
Consumer parts	3.67	6.0	-1.2	2.0	7.2	2.0	-3.4	6.7	.5	1.6	.7	-2.2	1.2
Equipment parts	6.67	7.4	11.8	14.1	7.0	20.2	10.4	13.6	1.6	1.0	1.6	2.1	16.6
Other	8.67	3.4	.0	4.9	1.6	-1.0	-4.0	1.5	.7	1.4	.8	.7	1.7
<b>Nondurable</b>	11.17	2.7	-1.7	3.2	1.1	-.5	-4.3	-7.1	-.7	-4.5	1.7	1.9	-2.8
Textile	.68	4.9	-6.5	-6.4	-8.2	-6.5	-9.8	3.8	-.9	-.5	.3	.0	-3.2
Paper	2.41	.8	-6.5	4.6	.8	2.3	-6.0	-4.3	-.1	-.2	1.4	-.4	-1.3
Chemical	4.66	4.0	1.6	5.3	2.1	-5.4	-5.3	-15.7	-1.2	-11.0	2.7	5.1	-7.4
<b>Energy</b>	12.04	.4	-.1	-.2	2.4	1.0	1.1	-9.5	-.3	-7.9	-.5	3.8	-4.3
<b>INDUSTRY GROUPS</b>													
<b>Manufacturing</b>	81.95	2.2	1.7	5.1	4.0	4.5	1.3	1.9	.4	-.7	1.8	.3	3.9
<b>Manufacturing (NAICS)</b>	77.47	2.5	2.0	5.2	4.3	4.2	1.2	2.4	.4	-.7	1.9	.4	4.1
<b>Durable manufacturing</b>	43.11	3.8	4.0	7.1	6.1	6.8	2.6	6.8	1.2	.0	2.7	-.2	7.2
Wood products	321	1.59	.9	4.0	1.6	3.4	-5.2	.6	-.9	2.5	3.9	-.9	4.3
Nonmetallic mineral products	327	2.28	1.0	2.2	1.2	-3.6	.2	1.3	.1	1.2	1.7	1.0	3.9
Primary metal	331	2.57	6.6	1.0	3.9	-1.0	-9.0	-17.2	3.0	3.4	.3	1.0	-2.9
Fabricated metal products	332	5.75	1.2	-.7	5.2	2.7	2.0	1.5	3.2	.4	.0	2.2	-.1
Machinery	333	5.36	4.2	1.0	11.5	1.7	3.4	1.8	3.1	-1.8	1.7	2.7	.4
Computer and electronic products	334	7.75	2.9	15.7	16.1	10.9	27.0	16.2	22.0	2.3	1.1	1.6	2.2
Electrical equip., appliances, and components	335	2.10	-2.2	-.7	5.2	3.6	1.6	1.9	12.6	.9	1.7	2.2	.3
Motor vehicles and parts	3361-3	7.30	12.2	4.7	2.6	12.6	3.5	-4.4	13.0	3.6	2.5	-.5	-4.8
Aerospace and miscellaneous transportation equipment	3364-9	3.48	-7.3	-.4	5.3	8.6	10.7	16.2	-15.3	.7	-15.7	20.5	1.6
Furniture and related products	337	1.72	7.3	.3	2.2	1.9	.1	-7.7	2.1	.4	1.5	-1.4	-.5
Miscellaneous	339	3.22	9.6	.6	3.9	5.2	6.5	1.7	7.0	1.8	.2	1.0	-.8
<b>Nondurable manufacturing</b>	34.36	.8	-.4	2.8	2.0	.9	-.4	-2.9	-.6	-1.5	.8	1.1	.1
Food, beverage, and tobacco products	311.2	11.02	-2.2	1.7	1.7	1.2	2.6	3.1	1.5	-.8	.5	.4	-.3
Textile and product mills	313.4	1.17	2.2	-4.2	-3.9	-6.6	.3	-7.6	9.0	-.1	.5	.9	.5
Apparel and leather	315.6	.81	-6.9	-9.4	-2.2	6.0	-7.1	-7.1	7.8	.5	1.0	-1.3	1.0
Paper	322	2.82	3.4	-6.0	4.5	.7	2.7	-8.4	-4.7	-.4	.3	2.4	-.7
Printing and support	323	2.11	-3.2	-3.0	1.5	1.7	1.7	-1.8	4.1	-.7	.8	.5	.7
Petroleum and coal products	324	2.25	2.9	.3	6.2	5.1	.4	2.2	-14.5	-1.3	-5.8	-1.2	5.8
Chemical	325	10.54	3.6	.7	4.2	3.6	-.9	-.4	-10.0	-.9	-5.1	1.9	2.0
Plastics and rubber products	326	3.64	4.4	-.2	3.2	1.3	1.7	-1.8	5.4	.9	2.3	-.6	1.6
<b>Other manufacturing (non-NAICS)</b>	1133,5111	4.48	-2.6	-3.0	3.7	-.3	10.0	1.8	-6.9	-.1	-.6	.4	-.8
<b>Mining</b>	21	8.53	-3.8	.5	-.4	1.8	4.2	-.1	-15.6	-.6	-9.6	-.2	4.8
<b>Utilities</b>	2211,2	9.52	7.0	.7	1.2	7.0	-1.9	6.4	11.8	.3	-1.6	-2.0	.3
Electric	2211	7.92	5.6	1.9	2.0	9.2	-3.0	5.9	15.5	.4	-1.1	-2.6	.1
Natural gas	2212	1.61	15.5	-5.5	-2.9	-3.6	3.5	9.3	-4.1	-.4	-4.2	1.0	1.0

r Revised. p Preliminary.

NOTE. Under industry groups, the figures to the right of the series descriptions are 2002 North American Industry Classification System (NAICS) codes. The abbreviation pt denotes part of a NAICS code. Additional industry detail is available on the Board's web site ([www.federalreserve.gov/releases/G17](http://www.federalreserve.gov/releases/G17)). Under market groups, in the products category, miscellaneous consumer nondurables, 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.

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

**Table 2**  
**INDUSTRIAL PRODUCTION: SPECIAL AGGREGATES AND SELECTED DETAIL**

Percent change, seasonally adjusted

Item	2004 proportion	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Nov. '04 to Nov. '05
		2002	2003	2004	2004 Q4	2005 Q1	Q2	Q3 <sup>r</sup>	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total industry</b>	100.00	2.3	1.5	4.3	4.2	3.8	1.6	1.0	.3	-1.6	1.3	.7	2.8
<b>Energy</b>	19.02	2.8	.5	.7	4.8	.9	2.9	-4.0	-2	-5.8	-1.1	2.8	-2.3
Consumer products	4.18	9.5	-1.9	1.7	7.2	.8	5.9	6.6	-5	-2.6	-2.1	1.7	1.2
Commercial products	2.44	4.5	5.1	2.4	10.6	-1.8	6.9	3.4	.8	-2.0	-2.7	1.1	-.5
Oil and gas well drilling	.35	-15.2	21.2	8.3	15.9	19.1	1.8	19.9	1.8	-.2	2.3	-.9	11.0
Converted fuel	3.75	4.1	.6	1.6	8.7	-1	6.1	.5	-5	-4.7	.1	1.9	.2
Primary materials	8.29	-1.6	-.4	-1.0	-.5	1.5	-1.0	-13.5	-3	-9.3	-.8	4.6	-6.2
<b>Non-energy</b>	80.98	2.2	1.7	5.1	4.0	4.5	1.3	2.3	.4	-.5	1.8	.2	4.0
<b>Selected high-technology industries</b>	4.93	4.8	21.1	18.4	9.6	32.8	16.4	27.0	3.0	1.6	1.1	2.6	26.0
Computer and peripheral equipment 3341	.91	-2.6	5.8	4.6	7.7	10.9	14.0	8.7	.8	.9	.6	.7	10.7
Communications equipment 3342	1.15	-22.6	9.9	22.3	28.0	24.4	12.1	33.4	1.4	2.7	3.2	2.2	25.6
Semiconductors and related electronic components 334412-9	2.87	26.0	34.1	21.4	3.5	43.8	18.9	30.1	4.3	1.4	.3	3.3	30.8
<b>Excluding selected high-technology industries</b>	76.06	1.9	.5	4.2	3.6	2.8	.3	.8	.2	-.7	1.9	.0	2.6
<b>Motor vehicles and parts</b> 3361-3	7.30	12.2	4.7	2.6	12.6	3.5	-4.4	13.0	3.6	2.5	-.5	-4.8	.7
Motor vehicles 3361	3.65	14.4	10.4	1.6	16.0	.8	-6.4	21.2	6.3	3.7	-1.2	-8.1	-1.9
Motor vehicle parts 3363	3.20	10.3	-1.5	2.2	8.1	4.7	-.9	7.7	1.1	1.3	.4	-2.0	3.1
<b>Excluding motor vehicles and parts</b>	68.76	.9	.0	4.4	2.7	2.7	.8	-.4	-.1	-1.0	2.1	.5	2.8
Consumer goods	21.66	.0	.7	2.3	2.2	2.9	1.5	-.2	-.3	.5	.4	-.3	1.5
Business equipment	7.81	.4	.5	9.0	3.7	7.3	7.4	-1.7	-.4	-6.0	9.1	1.4	9.7
Construction supplies	4.38	1.4	1.7	4.6	1.7	.8	3.9	4.4	.6	1.3	2.3	.5	6.6
Business supplies	7.94	1.4	-1.6	3.3	1.5	4.2	-.2	-.2	.2	-.2	1.1	.5	3.0
Materials	24.99	1.8	-.8	4.7	2.5	.2	-2.8	-1.8	-.1	-1.3	1.5	1.2	.6
<b>Measures excluding selected high-technology industries</b>													
Total industry	95.07	2.1	.5	3.6	3.8	2.4	.8	-.2	.1	-1.8	1.3	.6	1.6
Manufacturing <sup>1</sup>	77.02	1.9	.4	4.2	3.6	2.8	.3	.4	.2	-.8	1.8	.2	2.5
Durable	38.39	3.5	1.7	5.6	5.4	3.5	.7	4.3	1.0	-.2	2.9	-.6	4.8
<b>Measures excluding motor vehicles and parts</b>													
Total industry	92.70	1.5	1.3	4.5	3.5	3.9	2.1	.1	.0	-1.9	1.4	1.1	2.9
Manufacturing <sup>1</sup>	74.65	1.3	1.4	5.4	3.2	4.6	1.8	.9	.1	-1.0	2.0	.8	4.2
Durable	36.02	2.2	3.8	8.0	4.7	7.4	3.9	5.5	.8	-.5	3.4	.7	8.5
<b>Measures excluding selected high-technology industries and motor vehicles and parts</b>													
Total industry	87.78	1.3	.1	3.6	3.1	2.3	1.3	-1.3	-.1	-2.1	1.4	1.0	1.7
Manufacturing <sup>1</sup>	69.73	1.0	.0	4.4	2.7	2.7	.8	-.9	-.1	-1.2	2.1	.7	2.7
<b>Stage-of-process components of non-energy materials, measures of the input to</b>													
Finished processors	13.44	5.7	3.6	7.9	5.2	10.6	2.7	8.0	.9	.9	1.3	.4	8.2
Primary and semifinished processors	16.75	3.3	.2	4.3	1.8	-.9	-3.7	-3.5	.0	-2.2	1.3	1.6	-.6

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1. See note on cover page.

**Table 3**  
**MOTOR VEHICLE ASSEMBLIES**

Millions of units, seasonally adjusted annual rate

Item	2004 average	2004 Q4	2005 Q1	Q2	Q3	2005 Aug.	Sept.	Oct.	Nov.
<b>Total</b>	11.96	11.97	12.10	11.72	12.13	12.18	12.45	12.38	11.61
Autos	4.23	4.18	4.39	4.22	4.31	4.29	4.36	4.40	4.44
Trucks	7.73	7.79	7.71	7.50	7.83	7.88	8.10	7.98	7.18
Light	7.37	7.37	7.27	7.08	7.41	7.48	7.70	7.54	6.77
Medium and heavy	.36	.41	.44	.42	.41	.41	.40	.44	.40
<b>MEMO</b>									
Autos and light trucks	11.60	11.56	11.66	11.30	11.72	11.77	12.05	11.94	11.21

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](http://www.federalreserve.gov/releases/G17/mvsf.htm)



**Table 4**  
**INDUSTRIAL PRODUCTION INDEXES: MARKET AND INDUSTRY GROUP SUMMARY**

2002 = 100, seasonally adjusted

Item	2004 proportion	2005 Mar.	Apr.	May	June	July	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>
<b>Total IP</b>	100.00	107.3	107.2	107.4	108.3	108.3	108.6	106.9	108.2	109.0
MARKET GROUPS										
<b>Final products and nonindustrial supplies</b>	57.78	107.7	107.7	108.1	109.0	109.1	109.5	108.8	110.6	110.5
<b>Consumer goods</b>	30.24	104.6	104.1	104.6	105.8	105.2	105.6	106.1	105.9	105.1
<b>Durable</b>	8.66	107.7	106.0	107.1	108.5	107.1	110.1	112.4	112.1	108.8
Automotive products	4.70	110.3	107.8	109.3	111.7	109.5	114.4	117.5	116.1	110.1
Home electronics	.27	113.1	115.2	124.7	120.4	116.1	113.6	109.3	110.7	115.3
Appliances, furniture, carpeting	1.41	105.5	102.9	104.0	105.6	105.2	106.5	108.5	108.2	106.5
Miscellaneous goods	2.28	102.9	103.0	102.5	102.5	102.3	103.1	104.9	106.5	106.7
<b>Nondurable</b>	21.57	103.4	103.3	103.5	104.7	104.4	103.9	103.6	103.5	103.6
Non-energy	17.39	103.1	103.3	103.9	104.0	103.8	103.2	103.6	104.0	103.7
Foods and tobacco	9.49	103.2	103.2	104.2	104.7	104.7	103.8	104.4	104.7	104.3
Clothing	.76	85.1	85.4	83.3	82.9	84.7	85.0	85.8	84.7	85.4
Chemical products	4.76	104.7	105.2	105.4	105.2	104.2	103.8	104.0	104.8	104.3
Paper products	1.89	105.2	105.6	106.2	105.6	104.7	104.4	104.1	104.9	104.5
Energy	4.18	104.6	103.1	102.0	107.2	107.1	106.5	103.7	101.6	103.3
<b>Business equipment</b>	9.97	116.3	116.8	117.9	118.4	120.0	120.1	115.0	123.5	124.6
Transit	1.86	115.1	116.4	118.7	119.3	118.5	118.7	88.7	122.9	124.3
Information processing	2.73	126.3	127.4	129.2	131.0	133.9	136.1	138.1	141.3	143.2
Industrial and other	5.37	111.4	111.3	111.7	111.6	113.4	112.5	113.1	114.7	115.5
<b>Defense and space equipment</b>	1.92	122.5	124.5	124.1	124.9	126.8	127.4	124.6	128.2	127.6
<b>Construction supplies</b>	4.41	106.2	107.3	107.5	106.9	107.5	108.2	109.6	112.2	112.8
<b>Business supplies</b>	10.78	106.5	106.7	106.7	107.6	107.4	107.9	107.3	107.6	108.4
<b>Materials</b>	42.22	106.8	106.5	106.5	107.3	107.2	107.4	104.2	105.0	106.9
<b>Non-energy</b>	30.19	109.4	109.2	109.3	109.5	109.8	110.2	109.3	110.7	111.9
<b>Durable</b>	19.01	114.8	114.9	115.2	115.5	115.9	117.0	118.5	119.8	120.6
Consumer parts	3.67	100.4	99.1	99.5	102.4	101.1	101.6	103.2	103.9	101.6
Equipment parts	6.67	137.8	139.7	141.0	141.7	143.4	145.7	147.1	149.4	152.6
Other	8.67	104.8	104.5	104.1	103.0	103.2	104.0	105.5	106.3	107.1
<b>Nondurable</b>	11.17	100.7	100.1	99.8	99.7	100.0	99.3	94.8	96.4	98.2
Textile	.68	85.1	83.5	83.6	84.4	85.3	84.5	84.1	84.3	84.3
Paper	2.41	98.6	97.5	96.4	97.2	96.1	96.0	95.8	97.1	96.7
Chemical	4.66	103.9	103.7	102.6	102.9	103.3	102.1	90.9	93.3	98.1
<b>Energy</b>	12.04	99.8	99.2	99.2	101.3	100.3	100.0	92.1	91.6	95.0
INDUSTRY GROUPS										
<b>Manufacturing</b>	81.95	108.2	108.3	108.7	109.0	109.1	109.5	108.8	110.8	111.1
<b>Manufacturing (NAICS)</b>	77.47	108.6	108.6	109.0	109.4	109.6	110.1	109.3	111.4	111.8
<b>Durable manufacturing</b>	43.11	114.2	114.3	115.0	115.5	115.9	117.3	117.3	120.5	120.3
Wood products	321	1.59	104.9	104.8	105.9	104.4	104.9	104.0	106.6	108.8
Nonmetallic mineral products	327	2.28	105.1	105.7	105.9	106.4	105.9	105.9	107.2	109.1
Primary metal	331	2.57	102.3	99.5	98.9	95.5	95.3	98.2	101.5	102.8
Fabricated metal products	332	5.75	105.0	105.5	105.7	105.6	106.1	106.6	106.6	108.9
Machinery	333	5.36	114.3	114.3	114.5	115.0	116.3	114.1	116.1	119.2
Computer and electronic products	334	7.75	147.4	149.5	152.2	153.6	156.5	160.1	161.8	164.4
Electrical equip., appliances, and components	335	2.10	103.6	103.5	104.4	105.1	106.3	107.2	109.0	111.5
Motor vehicles and parts	3361-3	7.30	109.8	107.9	108.8	111.4	109.2	113.1	115.9	115.4
Aerospace and miscellaneous transportation equipment	3364-9	3.48	107.5	109.5	110.4	110.2	110.9	111.7	94.1	113.4
Furniture and related products	337	1.72	101.6	100.0	100.3	99.9	99.8	100.2	101.7	100.3
Miscellaneous	339	3.22	108.8	108.9	109.0	109.7	109.7	111.6	111.9	113.0
<b>Nondurable manufacturing</b>	34.36	101.9	101.9	101.9	102.1	102.1	101.5	100.0	100.8	101.9
Food, beverage, and tobacco products	311,2	11.02	103.3	103.2	104.3	104.5	104.8	103.9	104.5	104.9
Textile and product mills	313,4	1.17	91.5	89.6	89.8	90.8	91.9	91.9	92.4	93.2
Apparel and leather	315,6	.81	85.5	85.8	83.9	83.6	85.5	85.9	86.8	85.6
Paper	322	2.82	99.8	98.2	96.8	97.8	96.6	96.2	96.5	98.8
Printing and support	323	2.11	96.4	96.5	97.0	96.5	97.9	97.2	97.9	98.4
Petroleum and coal products	324	2.25	105.7	106.9	105.5	107.9	105.6	104.2	98.2	97.1
Chemical	325	10.54	103.8	104.1	103.9	103.9	103.7	102.7	97.4	99.3
Plastics and rubber products	326	3.64	103.5	103.8	103.1	102.9	103.2	104.1	106.5	105.9
<b>Other manufacturing (non-NAICS)</b>	<b>1133,5111</b>	4.48	102.4	102.5	103.2	102.0	101.0	100.9	100.3	100.8
<b>Mining</b>	<b>21</b>	8.53	100.4	100.5	99.8	100.8	99.8	99.2	89.7	89.5
<b>Utilities</b>	<b>2211,2</b>	9.52	104.8	103.1	102.9	108.3	108.1	108.4	106.7	104.5
Electric	2211	7.92	105.5	104.1	103.2	109.7	109.6	110.1	108.9	106.0
Natural gas	2212	1.61	101.1	98.3	101.1	101.2	100.9	100.4	96.2	97.1

r Revised. p Preliminary.  
 NOTE. See notes to table 1.

**Table 5**  
**INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES**

2002 = 100, seasonally adjusted

Item	2004 proportion	2005 Mar.	Apr.	May	June	July	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>
<b>Total industry</b>	100.00	107.3	107.2	107.4	108.3	108.3	108.6	106.9	108.2	109.0
<b>Energy</b>	19.02	102.8	102.0	101.5	104.8	103.9	103.7	97.6	96.6	99.3
Consumer products	4.18	104.6	103.1	102.0	107.2	107.1	106.5	103.7	101.6	103.3
Commercial products	2.44	109.5	109.1	108.4	113.7	111.5	112.4	110.2	107.2	108.4
<b>Oil and gas well drilling</b>	.35	140.0	140.1	135.7	140.6	143.6	146.2	146.0	149.3	147.9
Converted fuel	3.75	103.5	101.9	102.1	107.2	105.9	105.3	100.4	100.5	102.4
Primary materials	8.29	98.1	97.9	97.8	98.7	97.8	97.5	88.5	87.8	91.8
<b>Non-energy</b>	80.98	108.3	108.4	108.8	109.0	109.2	109.7	109.1	111.1	111.3
<b>Selected high-technology industries</b>	4.93	160.4	163.1	166.2	167.9	171.6	176.7	179.6	181.6	186.3
Computer and peripheral equipment	3341 .91	115.8	117.0	118.5	120.1	120.0	121.0	122.1	122.8	123.7
Communications equipment	3342 1.15	133.6	134.9	138.3	139.7	145.3	147.2	151.2	156.1	159.4
Semiconductors and related electronic components	334412-9 2.87	195.8	200.0	203.8	205.7	209.9	218.9	222.0	222.7	230.1
<b>Excluding selected high-technology industries</b>	76.06	105.3	105.2	105.5	105.7	105.7	106.0	105.3	107.3	107.3
<b>Motor vehicles and parts</b>	3361-3 7.30	109.8	107.9	108.8	111.4	109.2	113.1	115.9	115.4	109.9
Motor vehicles	3361 3.65	114.8	111.1	113.3	117.1	113.2	120.3	124.7	123.3	113.2
Motor vehicle parts	3363 3.20	102.1	102.1	101.9	103.6	103.3	104.4	105.8	106.2	104.0
<b>Excluding motor vehicles and parts</b>	68.76	104.8	104.9	105.2	105.1	105.4	105.3	104.2	106.4	107.0
Consumer goods	21.66	103.2	103.2	103.8	103.8	103.6	103.3	103.8	104.2	103.9
Business equipment	7.81	112.1	112.7	113.6	113.8	115.5	115.1	108.2	117.9	119.6
Construction supplies	4.38	106.0	107.1	107.3	106.7	107.3	107.9	109.4	111.9	112.5
Business supplies	7.94	102.6	102.8	102.9	102.5	102.7	102.9	102.7	103.9	104.4
Materials	24.99	103.5	103.1	103.0	102.8	103.0	102.9	101.6	103.1	104.3
<b>Measures excluding selected high-technology industries</b>										
Total industry	95.07	104.8	104.6	104.7	105.5	105.4	105.5	103.7	105.0	105.6
Manufacturing <sup>1</sup>	77.02	105.2	105.1	105.4	105.7	105.6	105.9	105.0	107.0	107.1
Durable	38.39	108.7	108.5	109.0	109.4	109.5	110.6	110.3	113.5	112.9
<b>Measures excluding motor vehicles and parts</b>										
Total industry	92.70	107.1	107.1	107.3	108.0	108.2	108.2	106.2	107.7	108.9
Manufacturing <sup>1</sup>	74.65	108.1	108.3	108.7	108.8	109.1	109.2	108.1	110.3	111.2
Durable	36.02	115.1	115.5	116.2	116.3	117.2	118.1	117.5	121.4	122.3
<b>Measures excluding selected high-technology industries and motor vehicles and parts</b>										
Total industry	87.78	104.4	104.3	104.4	105.0	105.1	104.9	102.7	104.2	105.3
Manufacturing <sup>1</sup>	69.73	104.8	104.8	105.1	105.1	105.3	105.1	103.9	106.1	106.8
<b>Stage-of-process components of non-energy materials, measures of the input to</b>										
Finished processors	13.44	116.1	116.2	116.7	118.1	118.3	119.3	120.3	121.9	122.4
Primary and semifinished processors	16.75	103.9	103.6	103.3	102.6	103.0	103.0	100.7	102.0	103.7

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1. See note on cover page.

**Table 6**  
**DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION**

Percent

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>One month earlier</b>												
2003	43.0	48.0	47.3	35.7	51.3	53.0	48.0	49.7	59.7	60.0	66.7	55.3
2004	61.0	62.7	53.0	66.7	58.7	46.3	66.0	56.0	47.0	61.0	53.7	58.7
2005	54.7	47.3	49.7	52.7	54.0	56.7	54.3	52.0	54.2	58.0		
<b>Three months earlier</b>												
2003	46.3	39.3	42.0	36.0	38.0	46.3	55.0	54.0	58.0	61.7	70.0	62.7
2004	66.0	61.3	65.0	68.3	66.7	62.3	57.7	56.3	56.3	57.7	56.7	64.3
2005	58.3	59.0	52.0	47.3	51.8	57.0	57.0	55.0	54.7	55.7		
<b>Six months earlier</b>												
2003	41.3	37.3	39.0	36.7	33.0	38.3	42.7	45.3	50.0	60.7	65.7	63.7
2004	68.3	73.3	68.0	77.0	72.0	65.3	67.3	67.0	62.0	61.3	58.7	64.0
2005	62.0	60.0	60.7	52.3	52.7	55.0	57.0	53.3	56.0	59.3		

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 7**  
**CAPACITY UTILIZATION**

Percent of capacity, seasonally adjusted

Item	2004 proportion	1972-2004 ave.	1988-89 high	1994-95 high	2001-02 low	2004	2005				2005	2005	2005	2005
						Q4	Q1	Q2	Q3 <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total industry</b>	100.00	81.0	85.1	85.0	73.9	79.4	79.9	79.9	79.8	80.3	78.9	79.8	80.2	
<b>Manufacturing</b>	84.35	79.8	85.5	84.5	72.0	78.2	78.7	78.5	78.5	78.8	78.1	79.4	79.4	
<b>Manufacturing (NAICS)</b>	80.13	79.6	85.5	84.6	71.5	77.8	78.3	78.1	78.1	78.4	77.7	79.0	79.2	
<b>Durable manufacturing</b>	45.97	78.1	84.6	84.1	68.4	76.3	76.9	76.6	77.1	77.4	77.1	78.9	78.5	
Wood products 321	1.58	80.1	88.5	88.2	71.0	81.0	81.7	80.6	80.8	79.9	81.8	85.1	84.4	
Nonmetallic mineral products 327	2.17	79.4	85.2	84.3	75.7	82.4	81.3	81.0	80.8	80.5	81.4	82.7	83.4	
Primary metal 331	2.40	80.4	94.9	94.8	68.8	85.0	83.0	79.1	79.4	79.2	81.9	82.1	83.0	
Fabricated metal products 332	6.19	77.1	81.7	85.1	68.9	73.9	74.2	74.3	74.6	74.7	74.7	76.2	76.1	
Machinery 333	5.56	78.7	85.3	87.5	63.4	78.3	79.0	79.4	80.1	79.1	80.5	82.7	83.0	
Computer and electronic products 334	9.13	78.6	81.5	83.7	59.7	72.9	75.1	75.4	76.4	76.7	76.6	76.9	77.6	
Electrical equip., appliances, and components 335	2.09	83.2	89.0	93.0	71.7	81.1	81.7	82.3	85.0	84.8	86.2	88.2	88.6	
Motor vehicles and parts 3361-3	7.32	77.5	89.3	88.9	70.1	80.5	80.7	79.1	80.8	81.1	82.8	82.1	78.0	
Aerospace and miscellaneous transportation equipment 3364-9	4.31	72.6	87.3	68.7	62.7	65.2	66.6	68.8	65.7	69.5	58.5	70.4	71.5	
Furniture and related products 337	1.82	78.7	82.2	83.4	69.5	75.1	75.1	73.5	73.8	73.5	74.6	73.6	73.2	
Miscellaneous 339	3.39	76.6	82.4	81.3	70.5	76.7	77.5	77.3	78.2	78.5	78.5	79.1	78.3	
<b>Nondurable manufacturing</b>	34.17	81.7	86.9	85.3	75.6	79.9	80.1	80.1	79.5	79.7	78.6	79.2	80.1	
Food, beverage, and tobacco products 311,2	11.08	81.8	85.9	84.1	76.7	79.4	79.8	80.4	80.7	80.3	80.7	81.0	80.8	
Textile and product mills 313,4	1.25	82.8	91.5	91.2	70.1	75.1	75.8	74.9	77.1	76.9	77.5	78.4	79.0	
Apparel and leather 315,6	.93	79.3	84.2	88.2	60.4	72.9	73.5	74.0	77.3	77.2	78.6	78.2	79.6	
Paper 322	2.63	87.8	93.6	91.5	79.5	85.5	86.0	84.2	83.2	83.1	83.3	85.3	84.8	
Printing and support 323	2.29	84.0	91.9	86.3	72.1	74.9	75.6	75.5	76.5	76.1	76.8	77.2	77.9	
Petroleum and coal products 324	1.79	85.9	89.0	90.6	84.1	93.4	93.4	93.8	90.1	91.4	86.1	85.1	89.9	
Chemical 325	10.81	78.3	85.0	81.1	71.4	77.4	77.1	76.8	74.7	75.7	71.8	73.1	74.6	
Plastics and rubber products 326	3.39	83.5	89.5	92.4	75.0	85.0	85.5	85.3	86.6	86.2	88.2	87.8	89.2	
<b>Other manufacturing (non-NAICS) 1133,5111</b>	4.22	84.7	91.0	83.2	81.2	84.9	86.8	87.1	85.5	85.6	85.1	85.4	84.7	
<b>Mining 21</b>	6.78	87.3	86.1	89.0	85.6	88.3	89.4	89.6	85.9	88.6	80.1	80.0	83.8	
<b>Utilities 2211,2</b>	8.87	86.8	92.7	93.7	83.7	84.4	83.9	85.2	87.7	88.2	86.8	85.1	85.4	
<b>Selected high-technology industries</b>	5.94	78.2	80.9	86.1	57.4	72.8	75.3	74.7	75.3	75.6	75.5	75.0	75.5	
Computer and peripheral equipment 3341	1.03	78.2	80.2	84.2	64.7	76.3	77.3	78.6	79.0	79.0	79.3	79.3	79.5	
Communications equipment 3342	1.78	76.0	80.7	85.9	41.1	58.6	62.1	64.0	68.9	68.6	70.5	72.8	74.4	
Semiconductors and related electronic components 334412-9	3.13	80.6	82.7	91.1	58.6	79.4	81.7	78.9	77.3	78.1	76.8	74.8	75.0	
<b>Measures excluding selected high-technology industries</b>														
Total industry	94.06	81.2	85.5	85.0	75.0	79.8	80.2	80.3	80.2	80.7	79.2	80.2	80.6	
Manufacturing <sup>1</sup>	78.41	79.9	86.0	84.4	73.1	78.6	79.0	78.9	78.9	79.2	78.5	79.9	79.9	
<b>STAGE-OF-PROCESS GROUPS</b>														
Crude	9.99	86.4	88.3	89.4	83.2	87.8	88.5	88.0	84.0	86.8	77.8	78.5	82.6	
Primary and semifinished	47.75	82.2	86.7	88.1	74.6	81.3	81.5	81.3	81.7	81.8	81.6	81.9	82.1	
Finished	42.26	77.9	82.8	80.5	70.8	75.3	76.1	76.4	76.8	77.1	76.5	78.1	77.7	

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1. See note on cover page.

**Table 8**  
**INDUSTRIAL CAPACITY**

Percent change

Item	Average annual rate				Fourth quarter to fourth quarter				Annual rate				Monthly rate
	1972-79	1980-88	1989-94	1995-2005	2002	2003	2004	2005 <sup>p</sup>	2005 Q1	Q2	Q3	Q4	2005 Nov.
<b>Total industry</b>	3.0	1.9	2.2	3.5	.7	-.2	.6	1.6	1.3	1.6	1.7	1.8	.1
<b>Manufacturing<sup>1</sup></b>	3.2	2.2	2.5	4.0	.4	-.1	.5	2.1	1.7	2.0	2.2	2.3	.2
Mining	.7	.1	-.9	-.6	-1.3	-1.0	-.6	-.6	-1.0	-.7	-.4	-.2	.0
Utilities	4.3	2.1	1.6	2.3	4.5	3.1	2.6	.0	.7	.0	-.4	-.4	.0
<b>Selected high-technology industries</b>	18.5	17.0	15.8	28.5	9.5	8.0	6.8	20.8	16.0	20.2	23.0	24.3	1.9
Manufacturing <sup>1</sup> ex. selected high-technology industries	2.6	1.3	1.6	1.8	-.2	-.5	.1	.6	.5	.6	.7	.7	.1
<b>STAGE-OF-PROCESS GROUPS</b>													
Crude	1.7	.3	-.3	-.5	-1.0	-2.1	-1.1	-.9	-1.3	-1.0	-.7	-.6	.0
Primary and semifinished	3.1	1.4	2.6	4.4	.9	-.1	.9	2.5	2.1	2.4	2.6	2.8	.2
Finished	3.7	3.3	2.5	3.4	.6	.6	.8	1.2	1.1	1.2	1.3	1.3	.1

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1. See note on cover page.

**Table 9**  
**GROSS VALUE OF FINAL PRODUCTS AND NONINDUSTRIAL SUPPLIES**

Billions of 2000 dollars at annual rate, seasonally adjusted

Item	2000	2004	2004		2005			2005			
			Q3	Q4	Q1	Q2	Q3 <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>
<b>Final products and nonindustrial supplies</b>	2,815.1	2,877.6	2,883.6	2,920.6	2,951.0	2,967.7	2,985.2	2,997.0	2,972.1	3,015.3	3,018.7
<b>Final products</b>	2,114.0	2,174.0	2,176.6	2,206.9	2,233.6	2,244.5	2,260.3	2,270.1	2,248.3	2,287.3	2,282.3
Consumer goods	1,480.7	1,558.7	1,551.7	1,569.2	1,581.5	1,583.6	1,595.8	1,598.1	1,599.4	1,594.7	1,589.0
Durable	471.7	524.4	518.0	527.0	530.2	526.3	540.1	541.7	553.4	551.6	534.3
Automotive products	279.5	328.8	323.1	331.8	334.5	330.3	342.8	344.8	354.1	350.3	332.9
Other durable goods	192.1	195.9	195.1	195.4	196.1	196.3	197.6	197.2	199.7	201.6	201.6
Nondurable	1,009.1	1,035.4	1,034.4	1,043.4	1,052.3	1,057.7	1,057.6	1,058.4	1,049.7	1,046.8	1,055.9
Equipment, total	633.2	616.3	626.6	639.8	655.1	664.4	667.9	676.0	650.6	698.7	699.7
Business and defense	616.9	601.8	612.2	624.5	639.1	648.9	651.5	660.0	633.3	678.4	681.5
Business	558.7	530.1	539.4	549.9	562.5	570.2	571.5	579.3	553.9	597.9	601.7
Defense and space	58.1	71.0	72.0	73.7	75.7	77.6	78.7	79.4	77.7	79.8	79.3
<b>Nonindustrial supplies</b>	701.2	703.7	707.2	713.9	717.6	723.5	725.2	727.2	724.1	728.5	736.7
Construction supplies	198.0	198.0	199.8	200.7	201.2	203.2	205.5	205.0	208.0	212.5	213.6
Business supplies	503.2	505.7	507.3	513.2	516.5	520.3	519.6	522.1	515.9	515.6	522.7
Commercial energy products	136.0	148.5	147.4	151.2	149.9	153.0	151.4	153.0	148.7	144.7	148.0

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**Table 10**  
**GROSS-VALUE-WEIGHTED INDUSTRIAL PRODUCTION: STAGE-OF-PROCESS GROUPS**

Percent change, seasonally adjusted

Item	2004 gross value <sup>1</sup>	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Nov. '04 to Nov. '05
		2002	2003	2004	2004 Q4	2005 Q1	Q2	Q3 <sup>r</sup>	2005 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
Finished	1,841.4	1.3	3.0	4.8	5.7	5.9	1.9	3.8	.6	-.6	2.3	-.7	4.4
Semifinished	1,665.6	4.7	1.6	5.0	5.0	4.2	3.5	7.8	.5	.5	.9	.1	5.7
Primary	949.1	3.2	-.2	2.8	2.5	-1.0	-2.4	-4.9	-.2	-2.5	-.1	2.6	-1.3
Crude	405.4	-.5	-1.6	3.7	2.9	.3	-4.1	-21.3	-1.9	-11.1	1.6	5.7	-8.3

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1. Billions of 2000 dollars.

**Table 11**  
**ELECTRIC POWER USE**

2002 = 100

Item	1997 billion kWh	Seasonally adjusted						Not seasonally adjusted					
		2005 May		June	July	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>p</sup>	2005 May		June	July	Aug. <sup>r</sup>
<b>Total Industry</b>	983.9	97.1	96.5	98.0	98.0	95.6	95.0	97.2	97.9	98.7	100.3	98.8	96.9
<b>Manufacturing<sup>1</sup></b>	890.9	97.0	96.4	97.9	98.0	96.0	95.1	97.1	97.9	98.7	100.6	99.3	97.0
Durable	386.5	97.9	97.7	99.4	99.8	99.0	97.0	98.7	100.1	100.8	102.7	102.0	98.4
Nondurable	498.4	96.3	95.5	96.8	96.7	93.6	93.6	96.0	96.2	97.0	98.9	97.1	95.9
<b>Mining</b>	93.0	98.9	98.1	99.5	97.9	89.5	93.8	97.8	97.6	97.5	96.4	89.9	94.7
Total ex. nuclear nondefense	962.6	97.6	96.8	98.1	98.1	96.6	95.6	97.7	99.1	99.8	101.6	100.0	97.1
Utility sales to industry	913.5	96.8	96.7	97.5	98.1	95.6	95.0	96.7	97.9	98.4	100.6	99.3	97.0
Industrial generation	70.4	103.1	100.1	100.6	95.6	94.9	95.4	102.4	98.6	101.1	97.0	92.9	95.5

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1. See note on cover page.

NOTE. Additional industry detail is available on the Board's web site, [www.federalreserve.gov/releases/g17/download.htm](http://www.federalreserve.gov/releases/g17/download.htm).

**Table 12**  
**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
<b>IP (percent change)<sup>1</sup></b>																	
1983	1.9	-6	.9	1.2	.8	.6	1.6	1.1	1.5	.9	.3	.5	4.3	9.4	14.7	10.9	2.6
1984	2.1	.5	.5	.6	.5	.4	.3	.1	-2	-1	.4	.1	12.4	6.4	2.9	.4	9.0
1985	-3	.4	.2	-2	.1	.0	-6	.5	.4	-4	.3	1.0	1.1	.6	-6	2.5	1.3
1986	.5	-8	-6	.0	.2	-.3	.6	-2	.2	.4	.5	.9	2.3	-2.4	1.7	4.5	1.0
1987	-3	1.2	.2	.6	.7	.5	.6	.7	.3	1.5	.5	.5	5.4	7.0	7.1	9.9	5.1
1988	.1	.3	.3	.5	.0	.2	.2	.5	-3	.6	.2	.4	3.4	3.2	2.1	3.3	5.0
1989	.3	-5	.3	-1	-7	.0	-9	.9	-3	-1	.3	.7	1.5	-1.9	-2.5	1.8	.9
1990	-6	.9	.5	.0	.1	.3	-1	.3	.2	-7	-1.2	-7	2.9	2.9	1.3	-5.9	.9
1991	-5	-7	-5	.2	1.0	1.0	.0	.2	.9	-2	-1	-.3	-7.6	2.7	5.7	1.0	-1.5
1992	-5	.7	.7	.7	.4	.0	.8	-5	.2	.7	.4	.1	-3	6.9	2.8	3.9	2.9
1993	.5	.3	.0	.3	-.4	.3	.3	.0	.5	.7	.4	.5	3.7	1.0	2.4	6.1	3.3
1994	.5	.0	1.0	.5	.6	.7	.2	.5	.2	.9	.6	1.1	5.3	7.5	5.3	7.9	5.4
1995	.3	.0	.2	.0	.2	.3	-.4	1.4	.4	-2	.3	.4	5.3	1.1	3.7	3.5	4.8
1996	-8	1.5	-2	.9	.7	.8	-2	.7	.6	.0	1.0	.7	1.8	8.4	5.1	6.2	4.2
1997	.2	1.2	.8	-1	.6	.5	.5	1.2	.9	.7	.9	.4	8.5	5.7	8.9	10.6	7.3
1998	.4	.1	.1	.5	.6	-.5	-.3	2.2	-2	.7	-1	.3	4.4	3.1	3.6	5.6	5.9
1999	.5	.5	.2	.2	.8	-1	.7	.5	-4	1.3	.6	.9	4.1	4.2	4.3	7.7	4.5
2000	.2	.4	.4	.7	.3	.1	-.3	-.3	.4	-3	.0	-.4	5.4	5.2	-9	-1.3	4.3
2001	-8	-7	-3	-1	-8	-.5	-.4	-.3	-.4	-.5	-.4	.0	-6.6	-4.9	-5.1	-4.5	-3.5
2002	.6	-1	.9	.4	.4	.9	-.3	.1	.0	-4	.3	-.5	2.9	6.1	1.7	-1.6	.1
2003	.5	.0	-2	-.8	-1	.3	.5	.1	.7	.1	.9	.2	.8	-3.3	3.6	5.1	.6
2004	.4	.8	-.3	.8	.9	-.6	.6	.3	-2	.7	.2	.7	5.3	5.2	2.6	4.2	4.1
2005	.2	.4	.0	-1	.2	.8	.0	.3	-1.6	1.3	.7		3.8	1.6	1.0		
<b>IP (2002=100)</b>																	
2003	100.5	100.6	100.4	99.6	99.5	99.8	100.3	100.4	101.0	101.1	102.0	102.3	100.5	99.7	100.5	101.8	100.6
2004	102.7	103.5	103.2	104.0	105.0	104.4	105.0	105.3	105.1	105.8	106.0	106.7	103.1	104.4	105.1	106.2	104.7
2005	106.9	107.4	107.3	107.2	107.4	108.3	108.3	108.6	106.9	108.2	109.0		107.2	107.6	107.9		
<b>Capacity (percent of 2002 output)</b>																	
2003	133.1	133.1	133.0	133.0	133.0	132.9	132.9	132.9	132.9	132.9	132.9	132.9	133.1	133.0	132.9	132.9	133.0
2004	133.0	133.0	133.0	133.1	133.1	133.2	133.3	133.4	133.5	133.6	133.7	133.9	133.0	133.1	133.4	133.7	133.3
2005	134.0	134.2	134.3	134.5	134.7	134.9	135.1	135.3	135.5	135.7	135.9		134.2	134.7	135.3		
<b>Utilization (percent)</b>																	
1983	72.0	71.5	72.1	72.9	73.4	73.8	74.9	75.7	76.8	77.5	77.6	77.9	71.8	73.4	75.8	77.7	74.7
1984	79.5	79.7	80.0	80.4	80.7	80.8	80.9	80.9	80.6	80.3	80.5	80.3	79.7	80.7	80.8	80.4	80.4
1985	79.9	80.1	80.0	79.7	79.6	79.4	78.7	78.9	79.1	78.6	78.8	79.4	80.0	79.6	78.9	78.9	79.4
1986	79.7	79.0	78.4	78.3	78.4	78.0	78.4	78.2	78.3	78.5	78.7	79.3	79.0	78.2	78.3	78.9	78.6
1987	79.0	79.8	79.8	80.1	80.6	80.8	81.2	81.6	81.7	82.8	83.1	83.4	79.6	80.5	81.5	83.1	81.2
1988	83.4	83.6	83.7	84.1	84.0	84.2	84.3	84.6	84.3	84.7	84.8	85.0	83.6	84.1	84.4	84.8	84.2
1989	85.1	84.6	84.7	84.5	83.8	83.6	82.7	83.3	82.8	82.6	82.7	83.1	84.8	84.0	82.9	82.8	83.6
1990	82.4	82.9	83.2	83.0	82.9	82.9	82.7	82.8	82.8	82.0	80.9	80.2	82.8	82.9	82.7	81.1	82.4
1991	79.7	79.1	78.6	78.6	79.3	80.0	79.9	79.9	80.5	80.2	80.0	79.7	79.1	79.3	80.1	80.0	79.6
1992	79.1	79.5	80.0	80.4	80.6	80.5	81.0	80.4	80.5	80.9	81.0	81.0	79.6	80.5	80.6	81.0	80.4
1993	81.2	81.4	81.3	81.4	81.0	81.1	81.2	81.1	81.4	81.8	82.0	82.3	81.3	81.1	81.2	82.0	81.4
1994	82.5	82.3	83.0	83.2	83.5	83.8	83.8	83.9	83.8	84.2	84.5	85.0	82.6	83.5	83.8	84.6	83.6
1995	85.0	84.7	84.5	84.1	83.9	83.8	83.1	83.9	83.8	83.3	83.2	83.2	84.7	83.9	83.6	83.2	83.9
1996	82.1	83.0	82.5	82.9	83.1	83.5	83.0	83.2	83.3	82.9	83.3	83.5	82.5	83.2	83.1	83.3	83.0
1997	83.3	83.9	84.1	83.6	83.6	83.5	83.5	84.0	84.3	84.3	84.6	84.4	83.7	83.6	83.9	84.4	83.9
1998	84.2	83.7	83.3	83.1	83.1	82.2	81.5	82.8	82.3	82.5	82.1	81.9	83.7	82.8	82.2	82.2	82.7
1999	82.0	82.0	81.8	81.7	82.0	81.7	81.9	82.0	81.3	82.1	82.2	82.6	81.9	81.8	81.7	82.3	81.9
2000	82.5	82.5	82.5	82.7	82.7	82.5	82.0	81.4	81.5	80.9	80.7	80.1	82.5	82.6	81.6	80.6	81.8
2001	79.2	78.4	77.9	77.6	76.9	76.3	75.9	75.4	75.0	74.5	74.0	73.9	78.5	76.9	75.4	74.2	76.3
2002	74.3	74.1	74.7	74.9	75.2	75.8	75.6	75.6	75.6	75.3	75.5	75.2	74.4	75.3	75.6	75.3	75.1
2003	75.5	75.6	75.4	74.9	74.9	75.1	75.4	75.5	76.0	76.1	76.8	76.9	75.5	74.9	75.6	76.6	75.7
2004	77.2	77.8	77.6	78.1	78.8	78.4	78.8	79.0	78.7	79.2	79.3	79.7	77.5	78.4	78.8	79.4	78.6
2005	79.8	80.0	79.9	79.7	79.8	80.3	80.2	80.3	78.9	79.8	80.2		79.9	79.9	79.8		

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

Table 13

HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing<sup>1</sup>

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>IP (percent change)<sup>2</sup></b>																	
1983	2.4	-1	1.0	1.1	1.3	.8	1.5	.7	1.9	1.2	.3	.2	8.7	12.2	15.4	12.5	4.6
1984	1.9	1.1	.5	.5	.2	.4	.5	.2	-2	.4	.3	.3	12.8	6.3	3.7	2.8	9.9
1985	-4	-3	.8	-3	.1	.1	-6	.6	.1	-3	.6	.4	.1	1.1	.1	2.3	1.8
1986	1.2	-7	-3	.4	.2	-4	.5	.3	.2	.3	.5	.9	4.4	-1	2.5	4.9	2.2
1987	-3	1.4	.1	.5	.7	.4	.7	.5	.6	1.6	.6	.6	6.0	6.7	6.9	11.3	5.5
1988	-2	.1	.3	.8	-1	.1	.1	.1	.3	.7	.3	.4	2.4	4.1	1.4	5.0	5.2
1989	.8	-1.0	-1	.1	-8	.1	-1.1	.9	-3	-2	.2	.2	1.7	-3.4	-3.0	.5	.8
1990	-2	1.4	.4	-1	.0	.2	-2	.3	.0	-8	-1.1	-8	4.4	2.7	.6	-6.5	.7
1991	-8	-7	-6	.3	.7	1.1	.3	.3	1.0	-2	-2	-1	-9.1	2.2	7.4	1.8	-2.0
1992	-5	.9	.9	.5	.7	.3	.8	-4	.0	.6	.4	-1	.7	7.9	3.9	2.7	3.7
1993	1.0	.1	-1	.5	-1	-1	.3	-1	.6	.8	.4	.6	4.6	1.5	1.6	6.9	3.5
1994	.3	.1	1.3	.8	.7	.3	.5	.7	.3	1.0	.8	1.1	5.2	9.5	6.2	9.6	6.0
1995	.4	-1	.3	-1	.0	.4	-6	1.2	.9	-1	.1	.4	5.7	.6	3.0	4.4	5.3
1996	-1.0	1.5	-3	1.2	.7	1.0	.2	.7	.7	.0	1.0	.9	.8	9.5	7.5	6.5	4.6
1997	.2	1.4	1.2	-3	.8	.7	.3	1.5	.9	.7	1.2	.5	10.1	6.8	9.9	11.4	8.5
1998	.7	.1	-1	.6	.5	-6	-4	2.6	-3	1.0	.1	.5	6.0	2.5	3.9	7.8	6.7
1999	.3	.8	-1	.4	1.0	-2	.5	.7	-4	1.5	.7	.8	4.6	4.8	4.0	9.3	5.2
2000	.3	.3	.6	.7	.0	.2	-1	-7	.4	-3	-3	-7	6.1	5.0	-1.2	-2.9	4.6
2001	-8	-7	-4	-1	-8	-6	-2	-7	-3	-6	-2	.3	-7.5	-5.1	-5.6	-4.2	-4.2
2002	.5	-1	.8	.1	.5	1.0	-4	.3	.0	-6	.3	-5	3.5	5.3	2.2	-2.1	.1
2003	.4	-2	.2	-9	-1	.6	.3	-1	.9	.1	1.1	.1	.3	-2.7	3.3	6.1	.5
2004	.3	.9	.2	.8	.8	-6	.8	.7	-4	.8	.0	.5	5.7	6.6	4.1	4.0	4.8
2005	.5	.5	-3	.0	.4	.3	.1	.4	-7	1.8	.3		4.5	1.3	1.9		
<b>IP (2002=100)</b>																	
2003	100.3	100.1	100.3	99.5	99.4	99.9	100.2	100.1	101.0	101.1	102.3	102.3	100.3	99.6	100.4	101.9	100.5
2004	102.6	103.6	103.7	104.6	105.5	104.9	105.7	106.4	106.0	106.9	106.9	107.5	103.3	105.0	106.1	107.1	105.4
2005	108.1	108.6	108.2	108.3	108.7	109.0	109.1	109.5	108.8	110.8	111.1		108.3	108.6	109.2		
<b>Capacity (percent of 2002 output)</b>																	
2003	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.3	136.3	136.4	136.4	136.4	136.3	136.4
2004	136.3	136.3	136.3	136.4	136.4	136.5	136.5	136.6	136.7	136.9	137.0	137.2	136.3	136.4	136.6	137.0	136.6
2005	137.4	137.6	137.8	138.1	138.3	138.6	138.8	139.1	139.3	139.6	139.9		137.6	138.3	139.1		
<b>Utilization (percent)</b>																	
1983	70.0	69.9	70.5	71.3	72.2	72.7	73.8	74.3	75.7	76.5	76.7	76.8	70.1	72.1	74.6	76.7	73.4
1984	78.1	78.9	79.1	79.4	79.5	79.6	79.8	79.8	79.4	79.5	79.6	79.6	78.7	79.5	79.7	79.6	79.4
1985	79.1	78.6	79.0	78.6	78.5	78.4	77.7	78.0	77.9	77.6	77.9	78.1	78.9	78.5	77.9	77.9	78.3
1986	78.9	78.2	77.9	78.1	78.2	77.8	78.1	78.2	78.3	78.4	78.7	79.2	78.4	78.0	78.2	78.8	78.3
1987	78.9	79.8	79.7	79.9	80.4	80.5	80.9	81.1	81.5	82.6	83.0	83.4	79.5	80.3	81.2	83.0	81.0
1988	83.2	83.2	83.4	84.0	83.9	84.0	84.0	84.0	84.2	84.7	84.8	85.0	83.3	84.0	84.1	84.8	84.0
1989	85.5	84.5	84.3	84.2	83.3	83.2	82.1	82.7	82.2	81.9	81.9	81.8	84.8	83.6	82.4	81.9	83.1
1990	81.5	82.4	82.6	82.3	82.1	82.2	81.8	81.9	81.7	81.0	79.9	79.2	82.2	82.2	81.8	80.0	81.6
1991	78.4	77.7	77.1	77.3	77.7	78.5	78.6	78.7	79.4	79.1	78.9	78.7	77.7	77.8	78.9	78.9	78.3
1992	78.1	78.6	79.2	79.4	79.8	79.8	80.3	79.8	79.7	80.0	80.1	79.8	78.6	79.7	79.9	79.9	79.6
1993	80.5	80.4	80.2	80.4	80.2	80.0	80.1	79.9	80.3	80.7	80.9	81.2	80.4	80.2	80.1	81.0	80.4
1994	81.3	81.1	82.0	82.4	82.8	82.8	82.9	83.2	83.1	83.6	84.0	84.5	81.4	82.6	83.1	84.0	82.8
1995	84.5	84.1	83.9	83.4	83.0	82.9	82.0	82.6	82.9	82.4	82.1	82.0	84.1	83.1	82.5	82.2	83.0
1996	80.8	81.6	81.0	81.5	81.7	82.1	81.9	82.1	82.2	81.8	82.1	82.4	81.1	81.8	82.1	82.1	81.8
1997	82.2	82.8	83.3	82.5	82.7	82.7	82.4	83.1	83.3	83.3	83.6	83.4	82.8	82.6	83.0	83.4	83.0
1998	83.4	82.9	82.2	82.1	81.9	80.9	80.1	81.7	81.0	81.4	81.1	81.1	82.8	81.7	80.9	81.2	81.7
1999	80.9	81.1	80.7	80.6	81.1	80.5	80.6	80.8	80.1	80.9	81.2	81.5	80.9	80.7	80.5	81.2	80.8
2000	81.3	81.2	81.4	81.6	81.2	81.0	80.6	79.8	79.8	79.2	78.7	77.8	81.3	81.3	80.0	78.6	80.3
2001	77.0	76.2	75.7	75.4	74.6	74.0	73.7	73.1	72.7	72.2	72.0	72.1	76.3	74.7	73.2	72.1	74.1
2002	72.5	72.3	72.9	73.0	73.3	74.0	73.7	73.9	73.9	73.4	73.6	73.3	72.6	73.4	73.8	73.4	73.3
2003	73.5	73.4	73.5	72.9	72.8	73.2	73.4	73.4	74.0	74.1	75.0	75.1	73.5	73.0	73.6	74.7	73.7
2004	75.3	76.0	76.1	76.7	77.3	76.9	77.4	77.9	77.5	78.1	78.0	78.3	75.8	77.0	77.6	78.2	77.1
2005	78.6	78.9	78.5	78.4	78.6	78.7	78.6	78.8	78.1	79.4	79.4		78.7	78.5	78.5		

1. See note on cover page.

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

Table 14

**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
<b>IP (percent change)<sup>1</sup></b>																	
1983	1.9	-7	.8	1.1	.7	.5	1.5	1.2	1.2	.8	.2	.4	3.6	8.5	13.8	9.6	1.8
1984	2.0	.3	.4	.5	.4	.2	.2	.0	-2	-2	.3	.1	11.4	5.0	1.6	-.3	7.9
1985	-.3	.5	.2	.0	.1	.0	-.5	.5	.5	-.4	.3	1.1	.9	1.2	-.2	2.6	1.0
1986	.6	-.8	-.7	.0	.1	-.2	.3	-.2	.2	.4	.4	.8	2.3	-2.7	.6	4.0	.9
1987	-.5	1.2	.2	.5	.6	.4	.5	.6	.2	1.4	.5	.4	4.5	6.3	6.0	9.1	4.2
1988	.0	.3	.2	.4	-.1	.2	.1	.5	-.4	.6	.2	.4	3.1	2.6	1.5	2.9	4.4
1989	.3	-.5	.4	-.1	-.7	.0	-1.1	.9	-.4	-.2	.3	.7	1.8	-2.1	-3.3	1.0	.6
1990	-.7	.8	.4	-.1	.0	.2	-.2	.3	.1	-.8	-1.2	-.8	2.2	2.4	1.0	-6.5	.3
1991	-.5	-.8	-.6	.2	1.0	1.0	.0	.1	.9	-.2	-.2	-.5	-8.1	2.2	5.4	.3	-2.0
1992	-.8	.7	.7	.6	.3	-.2	.7	-.5	.1	.6	.3	.0	-1.9	6.1	1.7	3.0	1.9
1993	.5	.3	.0	.2	-.4	.2	.3	-.1	.4	.6	.3	.5	3.0	.4	1.6	5.2	2.5
1994	.4	-.1	.8	.3	.4	.6	.1	.3	.0	.7	.4	.9	4.2	5.3	3.4	5.5	4.0
1995	.2	-.2	-.1	-.2	.0	.1	-.5	1.2	.1	-.4	.1	.2	3.0	-1.4	1.3	.5	2.4
1996	-1.0	1.4	-.4	.8	.5	.7	-.5	.4	.4	-.2	.8	.4	-.3	6.1	2.1	3.5	1.7
1997	-.1	.8	.5	-.4	.3	.3	.3	1.0	.8	.6	.7	.1	4.9	2.1	6.1	8.3	4.2
1998	.1	.0	-.1	.2	.5	-.9	-.8	2.0	-.6	.5	-.3	.1	1.6	1.0	-.3	2.3	3.1
1999	.2	.2	-.1	-.2	.6	-.4	.3	.4	-.5	1.2	.3	.6	.9	.3	1.2	5.6	1.2
2000	-.3	.0	.1	.4	-.1	.0	-.5	-.5	.3	-.5	-.2	-.5	.7	1.7	-3.0	-2.9	1.1
2001	-.8	-.6	-.3	.0	-.7	-.4	-.2	-.3	-.4	-.5	-.5	.0	-6.7	-4.0	-4.0	-4.8	-4.1
2002	.8	-.1	.9	.4	.4	.9	-.3	-.1	-.1	-.5	.2	-.6	3.4	6.2	1.3	-2.4	.3
2003	.4	-.2	-.3	-.8	-.1	.2	.4	.0	.6	.0	.9	.2	-.6	-4.3	2.6	4.4	-.3
2004	.3	.7	-.4	.8	.9	-.7	.5	.2	-.3	.8	.2	.6	4.3	4.6	1.6	3.8	3.2
2005	.0	.3	-.1	-.2	.1	.8	-.1	.1	-1.8	1.3	.6		2.4	.8	-.2		
<b>IP (2002=100)</b>																	
2003	100.1	99.9	99.7	98.8	98.7	98.9	99.3	99.2	99.9	99.9	100.8	100.9	99.9	98.8	99.5	100.5	99.7
2004	101.2	101.9	101.6	102.4	103.3	102.6	103.1	103.3	103.0	103.8	104.0	104.6	101.6	102.7	103.1	104.1	102.9
2005	104.5	104.9	104.8	104.6	104.7	105.5	105.4	105.5	103.7	105.0	105.6		104.7	104.9	104.9		
<b>Capacity (percent of 2002 output)</b>																	
2003	130.6	130.5	130.4	130.3	130.2	130.2	130.1	130.1	130.1	130.1	130.1	130.1	130.5	130.3	130.1	130.1	130.2
2004	130.1	130.1	130.1	130.1	130.2	130.2	130.2	130.3	130.3	130.4	130.4	130.4	130.1	130.2	130.3	130.4	130.2
2005	130.5	130.5	130.6	130.6	130.7	130.7	130.8	130.8	130.9	130.9	131.0		130.5	130.7	130.8		
<b>Utilization (percent)</b>																	
1983	71.9	71.4	71.9	72.7	73.3	73.6	74.7	75.6	76.6	77.2	77.4	77.7	71.7	73.2	75.6	77.4	74.5
1984	79.2	79.4	79.7	80.1	80.3	80.4	80.5	80.4	80.1	79.9	80.1	80.0	79.5	80.3	80.4	80.0	80.0
1985	79.6	79.9	79.8	79.7	79.6	79.4	78.9	79.1	79.3	78.9	79.0	79.7	79.8	79.6	79.1	79.2	79.4
1986	80.1	79.3	78.7	78.7	78.7	78.5	78.7	78.4	78.5	78.7	79.0	79.6	79.4	78.6	78.5	79.1	78.9
1987	79.2	80.0	80.1	80.4	80.8	81.1	81.4	81.9	81.9	83.1	83.4	83.7	79.8	80.8	81.7	83.4	81.4
1988	83.7	84.0	84.1	84.4	84.3	84.5	84.5	84.9	84.5	84.9	85.0	85.3	83.9	84.4	84.6	85.1	84.5
1989	85.5	85.0	85.2	84.9	84.2	84.1	83.0	83.6	83.2	82.9	83.0	83.4	85.2	84.4	83.3	83.1	84.0
1990	82.7	83.2	83.5	83.3	83.2	83.3	83.0	83.1	83.1	82.4	81.2	80.5	83.1	83.2	83.1	81.4	82.7
1991	80.1	79.3	78.8	78.8	79.5	80.2	80.1	80.1	80.7	80.5	80.2	79.7	79.4	79.5	80.3	80.1	79.8
1992	79.0	79.5	80.0	80.5	80.6	80.4	81.0	80.5	80.5	80.9	81.1	81.0	79.5	80.5	80.6	81.0	80.4
1993	81.3	81.5	81.3	81.5	81.0	81.2	81.3	81.2	81.4	81.9	82.1	82.4	81.4	81.2	81.3	82.1	81.5
1994	82.6	82.5	83.1	83.2	83.5	83.9	83.8	83.9	83.8	84.2	84.4	85.0	82.7	83.5	83.8	84.5	83.6
1995	85.0	84.6	84.4	84.0	83.8	83.7	83.1	83.8	83.7	83.2	83.1	83.1	84.6	83.8	83.5	83.1	83.8
1996	82.1	83.1	82.6	83.1	83.3	83.7	83.1	83.3	83.5	83.1	83.5	83.7	82.6	83.4	83.3	83.4	83.2
1997	83.4	83.8	84.0	83.4	83.4	83.3	83.2	83.8	84.1	84.3	84.6	84.4	83.7	83.4	83.7	84.5	83.8
1998	84.2	83.9	83.6	83.6	83.7	82.8	81.9	83.3	82.6	82.8	82.3	82.2	83.9	83.4	82.6	82.5	83.1
1999	82.2	82.1	81.9	81.5	81.9	81.4	81.4	81.6	81.0	81.9	82.0	82.3	82.1	81.6	81.4	82.1	81.8
2000	81.9	81.8	81.8	82.0	81.8	81.7	81.2	80.7	80.9	80.4	80.2	79.7	81.8	81.9	80.9	80.1	81.2
2001	78.9	78.4	78.0	78.0	77.3	76.9	76.7	76.4	76.0	75.5	75.1	75.0	78.4	77.4	76.4	75.2	76.9
2002	75.6	75.4	76.1	76.3	76.6	77.3	77.0	77.0	76.9	76.6	76.8	76.3	75.7	76.7	77.0	76.6	76.5
2003	76.7	76.6	76.4	75.8	75.8	76.0	76.3	76.3	76.8	76.8	77.5	77.6	76.6	75.9	76.4	77.3	76.5
2004	77.8	78.4	78.1	78.7	79.3	78.8	79.2	79.3	79.0	79.6	79.7	80.2	78.1	78.9	79.2	79.8	79.0
2005	80.1	80.3	80.3	80.1	80.1	80.7	80.6	80.7	79.2	80.2	80.6		80.2	80.3	80.2		

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

NOTE. Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.

Table 15

**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing<sup>1</sup> 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
<b>IP (percent change)<sup>2</sup></b>																	
1983	2.4	-.2	.9	1.0	1.3	.7	1.3	.9	1.5	1.1	.2	.2	7.9	11.2	14.2	10.9	3.6
1984	1.8	.9	.4	.4	.1	.3	.4	.1	-.3	.4	.3	.3	11.4	4.4	2.0	1.9	8.4
1985	-.5	-.3	.9	-.1	.1	.1	-.4	.6	.2	-.3	.6	.4	-.2	1.8	.7	2.4	1.4
1986	1.3	-.7	-.3	.4	.1	-.2	.2	.2	.2	.3	.4	.8	4.7	-.3	1.2	4.2	2.2
1987	-.4	1.4	.1	.4	.7	.3	.5	.3	.5	1.5	.5	.5	4.8	5.8	5.5	10.4	4.6
1988	-.2	.1	.2	.7	-.2	.0	.0	.1	.3	.6	.3	.4	2.0	3.4	.6	4.7	4.4
1989	.9	-1.0	.0	.0	-.8	.1	-1.3	.9	-.3	-.3	.1	.1	2.1	-3.7	-4.0	-.4	.4
1990	-.3	1.4	.3	-.2	.0	.2	-.2	.3	-.1	-.8	-1.2	-.8	3.7	2.1	.2	-7.2	.0
1991	-.8	-.8	-.7	.3	.7	1.1	.3	.2	1.1	-.2	-.3	-.3	-9.8	1.5	7.1	1.0	-2.6
1992	-.8	.9	.9	.4	.6	.1	.7	-.5	-.1	.4	.3	-.2	-1.1	6.9	2.5	1.5	2.6
1993	1.0	.0	-.2	.5	-.1	-.2	.2	-.2	.5	.7	.3	.5	3.8	.8	.5	5.8	2.6
1994	.1	.0	1.1	.5	.6	.2	.3	.5	.0	.8	.6	.9	3.9	7.0	4.0	6.8	4.4
1995	.2	-.3	-.1	-.4	-.3	.2	-.8	.9	.5	-.4	-.1	.2	2.9	-2.4	.1	.9	2.5
1996	-1.2	1.3	-.5	1.0	.4	.8	-.1	.4	.5	-.4	.8	.6	-1.8	6.9	4.1	3.3	1.5
1997	-.2	1.0	.9	-.7	.5	.4	.1	1.3	.7	.5	.9	.2	6.0	2.6	6.7	8.8	4.9
1998	.4	-.1	-.3	.4	.4	-1.1	-.9	2.4	-.7	.7	-.1	.2	2.8	.1	-.7	4.1	3.5
1999	-.1	.5	-.5	-.1	.8	-.7	.0	.7	-.6	1.4	.4	.4	.8	.3	.4	7.1	1.4
2000	-.3	-.1	.3	.4	-.5	.0	-.3	-.9	.3	-.4	-.6	-.9	.6	.8	-3.7	-4.9	.9
2001	-.7	-.6	-.4	.1	-.8	-.4	.0	-.7	-.3	-.7	-.2	.2	-7.8	-4.1	-4.3	-4.5	-4.9
2002	.7	-.1	.9	.1	.5	1.0	-.4	.1	-.1	-.7	.1	-.6	4.2	5.3	1.7	-3.2	.3
2003	.3	-.4	.1	-.9	-.2	.5	.1	-.3	.9	.0	1.2	.0	-1.5	-3.9	2.1	5.3	-.6
2004	.1	.8	.1	-.9	.7	-.7	.8	.5	-.5	.9	.0	.4	4.4	6.0	2.9	3.6	3.8
2005	.3	.4	-.4	-.1	.3	.2	.0	.2	-.8	1.8	.2		2.8	.3	.4		
<b>IP (2002=100)</b>																	
2003	99.8	99.4	99.5	98.5	98.4	98.8	99.0	98.7	99.6	99.6	100.8	100.8	99.5	98.6	99.1	100.4	99.4
2004	100.9	101.7	101.8	102.7	103.5	102.7	103.5	104.1	103.5	104.5	104.5	104.9	101.5	103.0	103.7	104.6	103.2
2005	105.2	105.6	105.2	105.1	105.4	105.7	105.6	105.9	105.0	107.0	107.1		105.3	105.4	105.5		
<b>Capacity (percent of 2002 output)</b>																	
2003	133.6	133.5	133.4	133.4	133.3	133.3	133.2	133.2	133.1	133.1	133.0	133.0	133.5	133.3	133.2	133.0	133.3
2004	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.1	133.1	133.1	133.2	133.0	133.0	133.0	133.1	133.0
2005	133.2	133.3	133.4	133.5	133.5	133.6	133.7	133.8	133.8	133.9	134.0		133.3	133.5	133.8		
<b>Utilization (percent)</b>																	
1983	69.7	69.6	70.3	71.0	71.9	72.5	73.4	74.1	75.3	76.1	76.3	76.4	69.9	71.8	74.3	76.3	73.0
1984	77.7	78.4	78.6	78.9	78.9	79.0	79.2	79.1	78.7	78.9	79.0	79.1	78.3	78.9	79.0	79.0	78.8
1985	78.6	78.2	78.7	78.5	78.4	78.3	77.8	78.2	78.2	77.8	78.2	78.4	78.5	78.4	78.1	78.1	78.3
1986	79.3	78.6	78.3	78.5	78.5	78.3	78.4	78.5	78.6	78.7	79.0	79.5	78.7	78.5	78.5	79.1	78.7
1987	79.1	80.1	80.0	80.2	80.7	80.8	81.2	81.4	81.7	82.9	83.3	83.7	79.7	80.6	81.4	83.3	81.3
1988	83.6	83.6	83.8	84.4	84.3	84.3	84.3	84.3	84.5	85.0	85.1	85.4	83.7	84.3	84.4	85.2	84.4
1989	86.0	85.0	84.8	84.7	83.8	83.7	82.5	83.1	82.6	82.2	82.2	82.1	85.3	84.1	82.7	82.2	83.6
1990	81.8	82.8	82.9	82.6	82.5	82.5	82.2	82.3	82.1	81.3	80.2	79.5	82.5	82.5	82.2	80.3	81.9
1991	78.7	78.0	77.3	77.4	77.9	78.6	78.8	78.8	79.6	79.3	79.0	78.7	78.0	78.0	79.1	79.0	78.5
1992	78.0	78.6	79.2	79.4	79.8	79.8	80.3	79.8	79.7	79.9	80.1	79.8	78.6	79.7	79.9	79.9	79.5
1993	80.5	80.4	80.2	80.5	80.3	80.0	80.1	79.9	80.2	80.7	80.9	81.2	80.4	80.2	80.1	81.0	80.4
1994	81.3	81.2	82.0	82.3	82.7	82.7	82.9	83.2	83.0	83.5	83.9	84.4	81.5	82.6	83.0	83.9	82.8
1995	84.4	84.0	83.7	83.2	82.8	82.8	81.9	82.5	82.7	82.2	81.9	81.8	84.0	82.9	82.3	81.9	82.8
1996	80.6	81.6	80.9	81.6	81.8	82.3	82.0	82.2	82.4	81.8	82.3	82.5	81.0	81.9	82.2	82.2	81.8
1997	82.2	82.7	83.1	82.2	82.3	82.3	82.1	82.8	83.1	83.2	83.6	83.4	82.7	82.3	82.6	83.4	82.7
1998	83.4	83.1	82.5	82.5	82.5	81.4	80.4	82.1	81.3	81.6	81.3	81.3	83.0	82.1	81.3	81.4	81.9
1999	81.0	81.2	80.6	80.3	80.8	80.1	79.9	80.2	79.6	80.6	80.8	81.0	80.9	80.4	79.9	80.8	80.5
2000	80.6	80.3	80.4	80.6	80.1	80.0	79.6	78.8	78.9	78.4	77.9	77.1	80.4	80.2	79.1	77.8	79.4
2001	76.5	76.0	75.6	75.6	75.0	74.6	74.5	74.0	73.7	73.2	73.1	73.3	76.0	75.0	74.1	73.2	74.6
2002	73.8	73.7	74.3	74.4	74.8	75.5	75.2	75.3	75.3	74.8	74.9	74.5	73.9	74.9	75.3	74.8	74.7
2003	74.7	74.4	74.5	73.9	73.8	74.2	74.3	74.1	74.8	74.8	75.7	75.8	74.6	73.9	74.4	75.4	74.6
2004	75.9	76.5	76.6	77.2	77.8	77.3	77.8	78.2	77.8	78.5	78.5	78.8	76.3	77.4	78.0	78.6	77.6
2005	78.9	79.2	78.9	78.8	79.0	79.1	79.0	79.2	78.5	79.9	79.9		79.0	78.9	78.9		

1. See note on cover page.

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

NOTE. Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.



## 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](http://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 2002. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries—logging and newspaper, periodical, book and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. For the period since 1997, the total IP index has been constructed from 300 individual series based on the 2002 North American Industrial Classification System (NAICS) 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 nonindustrial supplies (which are inputs to nonindustrial sectors). Materials are inputs in the manufacture of products. Major industry groups include three-digit NAICS 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](http://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, communications equipment, and semiconductors. When suitable data on physical product are not available, estimates of output are based on production-worker hours 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 1972. The current formula for the growth in monthly IP (or any of the sub-aggregates) since 1972 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 8 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by  $8/10$  percentage point ( $0.08 \times 10\% = 0.8\%$ ). 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](http://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 70 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:

### Availability of Monthly IP Data in Publication Window (Percent of value added in 2004)

Type of data	Month of estimate			
	1st	2nd	3rd	4th
Physical product	25	40	51	52
Production-worker hours	45	45	45	45
IP data received	70	85	96	97
IP data estimated	30	15	4	3

NOTE—The physical product group includes series based on either monthly or quarterly data. As can be seen in the first line of the table, in the first month, a physical product indicator is available for about half of the series (in terms of value added) that ultimately are based on physical product data (25 percent out of total of 52 percent). Of the 25 percent, about two-thirds (17 percent of total IP) include series that are derived from weekly physical product data and for which actual monthly data may lag up to several months. On average, quarterly product data are received for the third estimate of industrial production. Specifically, quarterly 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. About 3 percent of the source data for monthly IP—all physical product measures—are available too late for direct inclusion in the current index and are incorporated at the time of an annual historical revision.

**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 September 2005; for other series, the factors were estimated with data through at least June 2005. Series are pre-adjusted for the effects of holidays or the business cycle when appropriate. For the data since 1972, 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 1987–2004 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 1987–2004 period. In most cases (about 86 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 85 detailed industries (67 in manufacturing, 16 in mining, and 2 in utilities), which mostly correspond to industries at the three- and four-digit NAICS level. Estimates of capacity and utilization are available for a variety of groups, including durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries—logging and newspaper, periodical, book and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. Also, special aggregates are available, such as high-tech industries and manufacturing excluding high-tech industries.

**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 21 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 less than 75 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](http://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 1972–2004 period, the average total industry utilization rate is 81.0 percent; for manufacturing, the average factory operating rate has been 79.8 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 7 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 4-digit NAICS and 3-digit SIC level for mining and manufacturing. Aggregates for 3-digit industries, as well as for total mining, durable, nondurable, total manufacturing and total industrial electric power use, are computed. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries—logging and newspaper, periodical, book and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. An aggregate showing total industry excluding nuclear nondefense is shown separately because the value-added proportion for the nondefense nuclear material series (part of NAICS 3251) 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 3- and 4-digit industries are available on the Board's web site ([www.federalreserve.gov/releases/G17](http://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 1997 *Census of Manufactures* (the most recent available) and recent reporting panel statistics suggests the Federal Reserve data cover about 50 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 4-digit industry level to the data from the *Annual Survey of Manufactures* and the *Census of Manufactures* through 2002.

**Methodology.** The data we receive from utilities and cogenerators are edited for anomalies and aggregated, using self weights, to the 4-digit NAICS industry levels and above. Where reports are late or unavailable for some reason, responses are estimated.

**Seasonal Adjustment.** Series are seasonally adjusted at the 4-digit NAICS 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.

#### **REFERENCES AND RELEASE DATES**

**References.** The annual revision published in November 2005 will be described in an article published in an upcoming *Federal Reserve Bulletin*. 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](http://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, March 2000, March 2001, March 2002, April 2003, Winter 2004, Winter 2005).

#### **Release Schedule**

At 9:15 a.m. on

**2005:** January 14, February 16, March 16, April 15, May 17, June 15, July 15, August 16, September 14, October 14, November 17, and December 15.

**2006:** January 17, February 15, March 17, April 14, May 16, June 15, July 17, August 16, September 15, October 17, November 16, and December 15.